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UNITED STATES TARIFF COMMISSION
Washington, D. C.

TRADE AGREEMENT DIGESTS

Volume III

METALS AND MANUFACTURES

Part 3

(This volume is in three parts. Part 1 includes digests on items provided for in paragraphs 301 to 328, inclusive, of Schedule 3 of the Tariff Act of 1930, which are listed for consideration in the proposed negotiations; Part 2 includes digests on listed items provided for in paragraphs 329-371, inclusive; and Part 3 includes digests on listed items provided for in paragraph 372 and the following paragraphs in Schedule 3 and digests on related items in the free list which are subject to import-excise taxes.)

Prepared by the Tariff Commission for use in connection
with trade agreement negotiations

November 1946

List of Volumes in this Series

- Volume I - Chemicals, Oils, and Paints
- Volume II - Earths, Earthenware, and Glassware
- Volume III - Metals and Manufactures
- Volume IV - Wood and Manufactures
- Volume V - Sugar, Molasses, and Manufactures
- Volume VI - Tobacco and Manufactures
- Volume VII - Agricultural Products and Provisions
- Volume VIII - Spirits, Wines, and Other Beverages
- Volume IX - Cotton Manufactures
- Volume X - Flax, Hemp, Jute, and Manufactures
- Volume XI - Wool and Manufactures
- Volume XII - Silk Manufactures
- Volume XIII - Manufactures of Rayon or Other Synthetic
Textile
- Volume XIV - Papers and Books
- Volume XV - Sundries
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(Some of these volumes will be published in two or more parts)

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METALS AND MANUFACTURES

Introduction

This volume (Volume III) contains approximately 230 digests of statistical, technical, and trade data on metallic ores, metals, and metal manufactures, which have been listed (up to November 9, 1946) by the Trade Agreements Committee for consideration in the proposed trade agreement negotiations with those foreign countries which have been invited to participate in the so-called "nuclear" group. The digests cover all listed products provided for in Schedule 3 of the Tariff Act of 1930 and related items on the Free List of the tariff act which are subject to import-exercise taxes. Volumes similar to this one have been or are being prepared by the Tariff Commission on commodities provided for under other schedules of the tariff act which have been listed for these negotiations. The products on the Free List of the act which are subject to import-exercise or processing taxes are treated as dutiable commodities and are covered by digests which appear in the volumes for the tariff schedules to which such products are most nearly related. In addition, a special volume will be issued covering all commodities on the Free List which have been listed for the negotiations, and which are not subject to import-exercise or processing taxes.

Volume III is in three parts. Part 1 includes digests on items, provided for in paragraphs 301 to 328, inclusive, of Schedule 3 of the Tariff Act of 1930, which are listed for consideration in the proposed negotiations; part 2 includes digests on listed items provided for in paragraphs 329 to 371, inclusive; and part 3 includes digests on listed items in paragraph 372 and all following paragraphs in Schedule 3 and digests on related items in the Free List subject to import-exercise taxes.

Schedule 3 provides for a wide variety of metal products ranging from metallic ores through unmanufactured metals and mill products to completely fabricated articles ready for final consumption. The principal related products on the Free List which are subject to import-exercise taxes are copper ores, unmanufactured copper, lignite, coal, and coke.

United States production in 1939 of the commodities of the kinds covered by Schedule 3 and all related products on the Free List subject to import-exercise taxes (including items not listed for the proposed negotiations) was as follows ^{1/}: Iron and steel rolling mill and foundry products, 3,878 million dollars; nonferrous metals and ferro-alloys, 477 million dollars; other metal products (advanced manufactures), 9,294 million dollars. The output of these products during the war, of course, greatly exceeded the output in 1939. As most of the output of rolling mill and foundry products and as practically all of the non-ferrous metals and ferro-alloys are used in the production of advanced metal manufactures, a combined total of the three figures given here would contain extensive duplication. Moreover, there is considerable duplication within each of these figures.

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^{1/} The value of the domestic output of coal and related solid mineral fuels is not included in the production figures given here, as only negligible quantities of the imports of these products are subject to the import-exercise tax. In 1939 domestic production of these fuels amounted to somewhat less than 1 1/4 billion dollars, exports amounted to about 67 million dollars, and total United States imports to 5 million dollars. (foreign value), of which \$26,000 was taxable.

United States imports of all products provided for in Schedule 3 (those listed as well as those not listed for consideration in the proposed negotiations), and including related items on the Free List subject to import-excise taxes, amounted to 94 million dollars ^{1/} (foreign value) in 1939. The total imports in 1939 were slightly smaller than in 1937, the peak year of the 1930's, but substantially larger than the average annual imports during the five pre-war years (1935-39). In the aggregate, these imports supplied about 0.7 percent of the value of domestic consumption (estimated, excluding duplication) before the war, though for many items the ratio was much higher or lower. Imports of low-priced iron and steel rolling mill and foundry products have come largely from Germany and Belgium, while high-priced steel products have come principally from Sweden. Imports of manganese ore, the most important nonferrous metal in the imports into the United States, comes largely from the U.S.S.R., India, the Gold Coast, and Cuba. The imports of advanced manufactures of metals come mostly from the highly industrialized countries of Europe.

The value of United States exports of all products of the kinds provided for in Schedule 3, including related items on the Free List subject to import-excise taxes, amounted to 1.3 billion dollars ^{2/} in 1939. Exports of metals and manufactures go to practically every country of the world. Canada and the United Kingdom are the leading export markets; these two countries took about one-third of the 1939 exports. The principal export items are motor vehicles, electrical apparatus, machine tools, other industrial machinery, and iron and steel rolling mill products.

The ratio of the duties (and import-excise taxes) collected on all imports of products provided for in Schedule 3 (including related items on the Free List which are subject to import-excise taxes) to the foreign value of such imports was 30 percent in 1939.

Those items listed for consideration in the proposed negotiations, and covered by the digests contained herein, represented approximately 80 percent by value of the total imports in 1939 of all commodities provided for in Schedule 3 and all related Free List items subject to import-excise taxes. ^{3/} The listed items represent about 75 percent of the value of imports in 1939 of iron and steel rolling mill and foundry products, practically all of the imports of nonferrous ores, metals, and ferro-alloys, and about 60 percent of the imports of all other metal products. Of the total value of imports in 1939 of the items listed for consideration in the proposed negotiations about two-thirds were accounted for by the following 5 commodities in the order of magnitude: nickel and manufactures, ferro-alloys, clocks and watches, machinery and electrical apparatus, aluminum and manufactures.

Explanatory Notes

The digests presented herein have been kept as brief as possible and contain only the data most pertinent to an understanding of the international competitive situation with respect to the various products. It was obviously impractical to include all the facts pertaining to the many commodities listed for consideration. Supplementing the data given in the digests, and available for use in the negotiations, is the extensive information contained in the files of the Commission and in its numerous published reports, as well as the knowledge and experience of its staff.

^{1/} This figure does not include imports of copper and other metals free of duty (or excise tax) for smelting, refining and export, or imports for consumption free of duty from Cuba and the Philippine Islands, but it does include all taxable imports for consumption of such metals.

^{2/} Does not include reexports of copper and other metals imported duty or tax free for smelting, refining, and export, but it does include exports of such metals contained in products on which drawback of the duty or tax was paid and exports of such metals produced in the United States.

^{3/} Items, which in 1939 accounted for 70 percent of the total value of imports under Schedule 3, were subject to reduced rates of duty provided in trade agreements in effect on April 1, 1945.

In several instances, where a number of closely related products are listed for consideration, a Summary Digest is given in addition to separate digests on each of the listed items. The Summary Digest gives statistics of production, exports, and imports for the group of related products as a whole, describes the interrelationships among the several products, and discusses general competitive problems. In a few cases the Summary Digest covers items which are not listed for consideration in the proposed negotiations and not covered by separate digests; such unlisted items have been included in order to give a more complete picture of the production and trade in all the related products of an industry. Occasionally the statistics of production given in such a Summary Digest relate to the product in both unfabricated and fabricated forms, resulting in some duplication. Where duplication is significant, attention is called to the fact.

Most of the digests give statistics of United States production, exports, and imports (total and by principal sources) for the three prewar years, 1937, 1938, and 1939 and for one war year, 1943. In the case of some commodities the statistics cover a much longer period. Where statistics of production or of exports of a particular commodity are not available, estimated figures, or some other indication of the relative importance of production and exports as compared with imports, are given when possible. Frequently a digest covers more than one statistical import class. In such cases, if the imports are significant, a supplementary table is given, showing for 1939, or some other representative prewar year, statistics of United States imports by individual statistical classes, by principal country of origin. Where exports under lend-lease are substantial, as well as where imports free for Government use, or free as an act of international courtesy, or free under special provisions of the Tariff Act of 1930 are substantial, they are indicated in footnotes to the tables.

Import values are in practically all cases foreign values, i.e., they do/ not include duties, transportation costs, and certain other charges incidental to the shipment of products from the foreign country to the United States. These values, therefore, are not strictly comparable with the values shown for United States production (which are usually the sales value of the product at the plant) or for exports (which represent the actual selling price including inland freight and other charges to the port of exportation).

The countries which are the principal sources of imports are generally listed in the table in the order of the magnitude (by value) of imports from them in 1939; and names of the proposed negotiating countries are given in capital letters.

The digests show for each item the rate of duty provided in the Tariff Act of 1930 and the 1945 (January 1) rate. Changes in the duty since the act of 1930 became effective are shown in detail in footnotes. When it is significant, the ad valorem equivalent (or the specific equivalent) of each rate of duty is given in a general note following the section on tariff rates.

In the case of many of the schedules, rates of duty on certain commodities were reduced by the trade agreements with the United Kingdom and Canada, effective January 1, 1939. The economic conditions in these countries and throughout the world were so disturbed in 1939, as the result of preparations for and actual outbreak of war, that the statistics of United States imports for that year cannot be taken as indicating what would have been the effects of these duty reductions under peacetime conditions; the import data for the war years are still less indicative of what would have been those effects.

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST)

Par. No. 372
UNITED KINGDOM
CZECHOSLOVAKIA
CANADA
FRANCE

Stat. import classes (1939): 6113.3, 6117.8, 711.00-711.39, 7400.2-7550.9,
7720.2-7720.9, 7786.4, 7786.5, 7786.7-780.43, 780.52-780.68, 780.83-780.99
United States production, exports and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from---				
			<u>1/</u> All countries	<u>2/</u> Germany	<u>3/</u> UNITED KINGDOM	Switzer- land	Sweden
			Value (1,000 dollars)				
1937	2,004,886	259,844	11,546	5,372	3,241	800	398
1938	n.a.	284,259	8,625	4,309	1,864	696	667
1939	1,777,271	299,450	6,855	3,179	1,904	610	394
1943	n.a.	<u>4/</u> 749,517	<u>5/</u> 7,104	2	11,471	272	4

1/ Not strictly comparable for the series of years.

2/ For imports from CANADA, FRANCE, and CZECHOSLOVAKIA, see individual digests for items proposed for negotiation with those countries.

3/ Includes Austria beginning 1938.

4/ Includes 573,056 thousand dollars, exported under lend-lease.

5/ Free for Government use, 3,446 thousand dollars, practically all from CANADA; free as an act of international courtesy, 608 thousand dollars, principally from Canada and United Kingdom.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
	<u>Percent ad valorem</u>		
Par. 372			
Machines and parts:			
Grinding balls -----	27½	27½	UNITED KINGDOM
Cases and sharpeners for safety razors.	27½	1/22½	do.
Turbines and parts:			
Steam -----	20	1/20	do.
Hydraulic -----	27½	2/15	do.
Steam locomotives and parts -----	15	15	UNITED KINGDOM and CANADA
Reciprocating steam engines and parts.	15	1/10	do.
Internal combustion engines (carburetor type) and parts.	27½	1/17½	UNITED KINGDOM
Internal combustion engines (other) and parts:			
Horizontal, and parts:			
Not over 5,000 pounds each -----	27½	1/17½	do.
Over 5,000 pounds each -----	27½	27½	do.
Other, and parts:			
Not over 2,500 pounds each -----	27½	1/17½	do.
Over 2,500 pounds each -----	27½	27½	do.
Repairs or alterations to engines	3/	3/	do.
Jig borers -----	30	2/15	do.
Gear cutting and hobbing machines, and punches, shears, and bar cutters, and parts.	40	40	do.
Other metalworking machinery and parts.	30	30	do.

Continued on following page.

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST) - Continued

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 372 - Continued			
Embroidery machines and parts -----	30	30	UNITED KINGDOM and FRANCE
Lace making machines and parts:			
Lever or go-through type -----	30	30	UNITED KINGDOM
Other -----	30	1/15	do.
Full-fashioned knitting machines and parts.	40	40	do.
Circular knitting machines and parts	40	1/20	do.
Other knitting machines and parts	40	2/27½	do.
Braiding, insulating machines, and parts.	40	1/20	do.
Synthetic-fiber-making machines and parts.	40	40	do.
Looms -----	40	40	do.
Loom parts -----	40	40	do.
Carding machines (cotton) and parts	40	1/20	UNITED KINGDOM, CZECHO.
Carding machines (jute) and parts --	40	1/20	UNITED KINGDOM
Carding machines (wool and other) and parts:			do.
Wool (worsted combs) -----	40	40	do.
Wool (other) -----	40	1/20	do.
Other -----	40	1/20	do.
Winding and warping machines and parts.	40	1/20	do.
Other textile machinery and parts	40	1/25	do.
Textile bleaching, dyeing, etc. machines and parts.	40	40	do.
Cordage machines and parts -----	40	1/20	do.
Sewing machines (not over \$10) ----	15	1/15	do.
Sewing machines (all other) and parts:			
Value \$10-\$75 each and parts ----	15	1/15	do.
Value over \$75 each and parts ----	30	1/15	do.
Shuttles for sewing and embroidery machines.	30	30	do.
Cream separators:			
Value \$50-\$100 and parts -----	25	4/12½	do.
Value over \$100 and parts -----	25	25	do.
Other centrifugal machines and parts.	25	25	do.
Adding, calculating, and accounting machines and parts:			
Combined adding and typewriting machines and parts.	30	30	do.
Calculating and accounting machines:			
For multiplying and dividing --	27	5/25	do.
Others and parts -----	27½	27½	do.
Cash registers and parts -----	25	25	do.
Lawn mowers and parts -----	30	30	do.
Printing machinery (except textile) and parts.	25	25	do.

Continued on following page.

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST) - Continued

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u> <u>negotiating</u> <u>country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 372 - Continued			
Paper-box and book binding machines and parts.	25	25	UNITED KINGDOM
Tobacco machinery and parts:			
Cutting and industrial cigarette.	27½	1/ 22½	do.
Other -----	27½	27½	do.
Food preparing machines and parts	27½	27½	do.
Wrapping and packaging machines and parts:			
Candy, cigarette package wrapping, and pipe tobacco packaging.	27½	1/ 22½	do.
Other -----	27½	27½	do.
Testing machines and parts -----	27½	2/ 20	do.
Pulp and paper machines and parts --	27½	5/ 20	do.
Reciprocating gang-saw machines and parts.	27½	5/ 27½	do.
Miscellaneous machines and parts:			
Acetylene gas generators and parts.	20	20	UNITED KINGDOM and CANADA
Others -----	27½	27½	UNITED KINGDOM
1/ Trade agreement with the United Kingdom, effective January 1939.			
2/ Trade agreement with Switzerland, effective February 1936.			
3/ Dutiable at same rate as the engine repaired.			
4/ Trade agreement with Finland, effective November 1936.			
5/ Trade agreement with Sweden, effective August 1935.			

Comment

Machinery is dutiable under paragraph 372 with the following exceptions: Electrical equipment, which is dutiable under another paragraph, and agricultural, sugar, shoe, typewriting and typesetting, sandblast, and certain road and sewage machines, all of which are free. The production of machinery other than electrical is one of the leading industries in the United States. It was one of four reported by the Bureau of the Census in which wages of one billion dollars or more were paid in 1939. In addition to the production reported by the Census, a large but undetermined amount of machinery is made by manufacturers of various products for their own use. The largest branch of the industry is metalworking machinery, which accounts for over one-quarter of the total value of production; prime movers (engines and turbines), and construction and similar machinery together make up another quarter. There are countless varieties and sizes of machines for making almost the whole range of manufactured articles and structures, and for road building, pumping, mining, printing, performing services in stores, offices, and households, and for other uses. There are many large corporations among machinery builders, but they are not of the very large size characteristic of the electrical, automobile, and steel industries. The Census reported nearly 10,000 machinery builders in 1939.

Although the United States is the largest producer and consumer of machinery, the variety made is so great that mass-production methods are possible only for some of the smaller and most used kinds. Most buyers of machinery, however, are engaged in manufacturing or construction, and to them well-known reliability, efficiency in performance, and suitability for the work to be done means more than savings in first cost.

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST) - Continued

The industrial countries of Europe are large producers of machinery, but a characteristic difference often appears between United States and foreign machinery. In the United States skilled labor is more highly paid than in most of the world and many American machines, therefore, are designed for high production with a minimum of skilled labor. This characteristic is most noticeable in machine tools. American tools are in general more nearly automatic and capable of higher output, but are more limited in the variety of work they can do. Other countries, as wages in them are generally rising, are now tending toward greater use of machines of this kind. This trend was especially noticeable in Great Britain during the war. Although in the future foreign machines of this sort may become more nearly competitive with those of the United States, the differences are too great to be bridged quickly. In the field of more standardized machines, such as general purpose machine tools, pumps, or gasoline engines, various factors have up to the present kept imports small in relation to domestic production. Among these factors, one or more of which may be effective for any one class of machines, are the duty, the opportunity for lowering costs in the United States by mass-production methods, the well-established prestige of domestic manufacturers, speedier deliveries and repairs, and the widespread domestic sales and service organizations of the United States producers.

On the other hand, machines are sometimes developed abroad which embody improvements over domestic machines. If the demand in the United States for a machine of this kind is not great, it may be imported in small numbers for a considerable time. If the demand is sufficient, however, it is likely that the machine either will be manufactured in the United States under patent license or that domestic manufacturers will in time produce an equal or a better machine. A considerable part of the flow of machinery imports, therefore, is of constantly changing character. Although the total volume may not fluctuate widely from year to year, many individual items are likely to appear and disappear.

In 1937, when imports of dutiable machinery were greater than in most years of the 1930 decade, they were equal to about one-half of one percent of the domestic production, and to about $4\frac{1}{2}$ percent of the exports.

Machinery for textile manufacture in 1939 made up one-third of the total imports, although domestic production of textile machinery was less than 5 percent of total machinery production. Textile machinery has for a long time been more regularly imported than any other major class of machinery, and the ratio of imports to domestic production has been higher than for any other general group. Part of the prewar imports of this class consisted of various types of machines which, because of complexity of construction and limited demand, are not made in the United States; part were knitting machines from Germany, which have for years been of high quality and advanced design; part consisted of other competitive machines from Europe, where the development of textile machinery is equal to that in the United States.

Other branches of machinery in which imports are separately reported and which before the war made up a considerable portion of the total imports, are engines, metalworking machinery, and miscellaneous general industrial machinery. Imports in these classes are principally of special types or improved designs. Examples are cigarette machines, wrapping machines, high-grade Diesel engines of very small sizes, and an accurate type of machine tool for a special purpose. Prewar imports in these classes, however, although together constituting one-quarter of all machinery imports, amounted to only a small fraction of 1 percent of the domestic production of the same broad classes. Imports of other classes separately reported are still smaller in relation to domestic production.

About one-quarter of the total imports in the prewar period consisted of unspecified items, the amount of which ranged from one and one-half million dollars to more than 3 million yearly. Here, however, analysis shows no types consistently imported in significant amounts from year to year. Much of the total for this miscellaneous group was made up of parts, often not identified with the machine to

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST) - Continued

which they belong. The character of both machines and parts imported under this category changed from time to time, as the progress of machine design and construction varied in both the United States and Europe.

The table below shows the approximate production, exports, and imports in 1939 by broad classes. The data for production, exports, and imports are not strictly comparable with one another or with the groupings in the individual digests, because of overlapping in statistical classifications.

Machines dutiable under paragraph 372: United States
production, exports, and imports, 1939

(In thousands of dollars)

	Production	Exports	Imports
Engines and turbines -----	171,737	11,827	556
Metalworking machinery -----	405,789	116,669	663
Construction, mining, and related machinery -----	258,486	56,083	19
Pumps and compressors -----	144,896	12,756	15
Other general industrial machinery -----	282,419	42,626	695
Textile machinery -----	83,063	9,088	2,347
Food products machinery -----	87,242	6,200	340
Printing trades machinery -----	35,511	7,241	234
Other special industrial machinery -----	87,957	3,675	170
Office and store machines -----	127,674	19,434	16
Household and service machines -----	92,497	13,138	255
Unspecified -----	-	713	1,545
Total -----	1,777,271	299,450	6,855

Source: Official statistics of the U. S. Department of Commerce.

The table which follows shows for 1939 the total value of imports, by principal sources, for each of the items dutiable under paragraph 372.

Machinery and parts dutiable under paragraph 372: United
States imports for consumption by kind, with principal
sources, 1939

Kind	Total value	Principal sources
Grinding balls -----	\$24,640	Germany $\frac{1}{2}$, \$24,626.
Cases and sharpeners for safety razors. -----	45,566	UNITED KINGDOM, \$44,832; Denmark, \$452.
Turbines and parts:		
Steam -----	101,012	Switzerland, \$85,838; UNITED KINGDOM, \$13,642.
Hydraulic -----	-	
Steam locomotives and parts -----	66,690	CANADA, \$60,617; UNITED KINGDOM, \$4,817.
Reciprocating steam engines and parts. -----	14,333	UNITED KINGDOM, \$14,127.
Internal combustion engines (carburetor). -----	1,889	Sweden, \$818; UNITED KINGDOM, \$671.
Continued on following page		

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST) - Continued

Machinery and parts dutiable under paragraph 372: United States
imports for consumption by kind, with principal sources, 1939
Continued

Kind	Total value	Principal sources
Internal combustion engines (other):		
Engines, horizontal and parts:		
Not over 5,000 lb. each -----	\$28,871	UNITED KINGDOM, \$19,224; Sweden, \$7,775.
Over 5,000 lb. each -----	36,805	Sweden, \$11,345; UNITED KING- DOM, \$3,829; Denmark, \$6,495.
Engines, other and parts:		
Not over 2,500 lb. -----	154,072	UNITED KINGDOM, \$60,456; Sweden, \$43,455; Germany, <u>1</u> / \$42,672.
Over 2,500 lb. -----	152,353	Germany, <u>1</u> / \$40,870; Sweden, \$33,641; Denmark, \$25,269; Norway, \$18,753; UNITED KINGDOM, \$11,454.
Jig borers -----	51,948	Switzerland, \$51,755.
Gear cutting and other machine tools.	268,428	Germany, <u>1</u> / \$103,802; Switzerland, \$84,179; Sweden, \$36,152; UNITED KINGDOM, \$33,249.
Other metalworking machinery and parts.	343,120	Germany, <u>1</u> / \$183,177; UNITED KINGDOM, \$53,773; Switzerland, \$51,885.
Embroidery machines and parts -----	26,340	Switzerland, \$11,754; Germany <u>1</u> / \$10,655; FRANCE, \$3,236.
Lace making machines and parts:		
Lever or go-through type -----	39,758	UNITED KINGDOM, \$39,758.
Other -----	87,450	UNITED KINGDOM, \$87,174.
Full-fashioned knitting machines and parts.	932,939	Germany, <u>1</u> / \$932,939.
Circular knitting machines and parts -----	111,595	UNITED KINGDOM, \$103,345; Germany, <u>1</u> / \$7,726.
Other knitting machines and parts	126,273	Germany, <u>1</u> / \$96,625; Switzerland, \$23,767; UNITED KINGDOM, \$5,246.
Braiding, insulating machines and parts.	14,933	France, \$5,381; Germany, <u>1</u> / 3,677; Switzerland, \$2,989; UNITED KINGDOM, \$2,872.
Synthetic fiber making machines and parts.	41,217	Germany, <u>1</u> / \$17,795; UNITED KINGDOM, \$12,964; France, \$4,144.
Looms and parts -----	43,142	Germany, <u>1</u> / \$35,121; Switzerland, \$5,603; UNITED KINGDOM, \$4,392.
Carding machines (cotton) and parts.	312,441	UNITED KINGDOM, \$264,582; Germany, <u>1</u> / \$45,833.
Carding machines (jute) and parts	36,897	UNITED KINGDOM, \$36,800.

Continued on following page

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST) - Continued

Machinery and parts dutiable under paragraph 372: United States
imports for consumption by kind, with principal sources, 1939
Continued

Kind	Total value	Principal sources
Carding machines (wool and other)::		
Wool (worsted combs) -----	\$84,601	UNITED KINGDOM, \$67,734; France, \$14,938; Germany, $\frac{1}{2}$ \$1,650.
Wool (other) -----	159,139	UNITED KINGDOM, \$77,233; France, \$58,238; Germany, $\frac{1}{2}$ \$23,390.
Other -----	82,169	UNITED KINGDOM, \$53,491; Germany, $\frac{1}{2}$ \$16,414; France, \$8,870.
Winding and warping machines and parts.	38,549	Germany, $\frac{1}{2}$ \$21,724; Switzerland, \$8,424; France, \$7,538.
Other textile machinery and parts	76,114	Germany, $\frac{1}{2}$ \$33,507; UNITED KINGDOM, \$18,619; France, \$15,933.
Textile bleaching, dyeing, etc., and parts.	14,164	Germany, $\frac{1}{2}$ \$6,202; UNITED KINGDOM, \$5,583.
Cordage machines and parts -----	114,256	UNITED KINGDOM, \$114,178.
Sewing machines (Not over \$10) ----	29,924	Germany, $\frac{1}{2}$ \$27,501; Canada, \$1,536.
Sewing machines (all other) and parts:		
Value \$10-\$75 each and parts ----	99,492	UNITED KINGDOM, \$61,993; Germany, $\frac{1}{2}$ \$22,327; Japan, \$8,273.
Value over \$75 each and parts ----	79,003	UNITED KINGDOM, \$45,370; Germany, $\frac{1}{2}$ \$25,617; France, \$7,619.
Shuttles for sewing and embroidery.	1,458	Germany, $\frac{1}{2}$ \$1,369; UNITED KINGDOM, \$89.
Cream separators:		
Value \$50-\$100 and parts -----	3,538	Sweden, \$2,948; Germany, $\frac{1}{2}$ \$434.
Value over \$100 and parts -----	89,480	Germany, $\frac{1}{2}$ \$67,422; Finland, \$7,747; Switzerland, \$6,581; Denmark, \$5,783.
Other centrifugal machines and parts.	66,069	Sweden, \$30,162; Germany, $\frac{1}{2}$ \$29,128; UNITED KINGDOM, \$4,135.
Adding, calculating, and accounting machines:		
Combined adding and typewriting	27	UNITED KINGDOM, \$27.
Calculating and accounting:		
For multiplying and dividing --	3,207	Sweden, \$2,296; France, \$512; Italy, \$208; UNITED KINGDOM, \$118.
Other and parts -----	11,530	UNITED KINGDOM, \$5,900; Sweden, \$5,119.
Cash registers and parts -----	1,079	Germany, $\frac{1}{2}$ \$613; Sweden, \$215; UNITED KINGDOM, \$188.

Continued on following page.

DUTIABLE MACHINERY AND PARTS, OTHER THAN
ELECTRICAL (SUMMARY DIGEST) - Continued

Machinery and parts dutiable under paragraph 372; United States
imports for consumption by kind, with principal sources, 1939
Continued

Kind	Total value	Principal sources
Lawn mowers and parts -----	\$22	Canada \$16; Germany, ^{1/} \$6.
Printing machines except textile and parts.	225,735	Germany, ^{1/} \$173,714; UNITED KINGDOM, \$35,951; France, \$10,318.
Paper, box, bookbinding machines and parts.	14,769	Germany, ^{1/} \$9,880; Canada, \$2,486; UNITED KINGDOM, \$2,066.
Tobacco machinery and parts:		
Cutting and cigarette -----	191,274	UNITED KINGDOM, \$189,064; Germany, ^{1/} \$1,735.
Other -----	96,306	Sweden, \$62,465; UNITED KINGDOM \$31,550; Canada, \$2,291.
Food preparing machines and parts	160,107	Germany, ^{1/} \$61,429; UNITED KINGDOM, \$58,410; Italy, \$19,533; Switzerland, \$9,754.
Wrapping and packaging machines and parts:		
Candy, pipe tobacco, and cigarette.	118,342	UNITED KINGDOM, \$101,571; Germany, ^{1/} \$15,742.
Other -----	245,828	Germany, ^{1/} \$224,405; Switzer- land, \$11,306; UNITED KING- DOM, \$8,167.
Testing machines and parts -----	20,136	Germany, ^{1/} \$12,805; Switzer- land, \$4,322; Sweden, \$1,597; UNITED KINGDOM, \$926.
Pulp and paper machines and parts	145,986	Sweden, \$93,321; UNITED KINGDOM, \$20,924; Germany, ^{1/} \$15,701.
Sawmill and woodworking machines and parts.	17,499	UNITED KINGDOM, \$15,488; Sweden, \$849.
Miscellaneous machines and parts:		
Carbide acetylene generators ---	1,193	CANADA, \$1,134; Germany, ^{1/} \$59.
Other -----	1,596,322	Germany, ^{1/} \$836,203; Switzer- land, \$226,799; UNITED KING- DOM, \$160,858.

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

FORGED STEEL GRINDING BALLS

Stat. import classes (1939): 6113.3

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	Germany <u>1/</u>	Canada	UNITED KINGDOM
Quantity (pounds)						
1937 ----	Not	n.a.	3,505,014	3,505,014	-	N
1938 ----	avail-	n.a.	4,476,157	4,476,157	-	O
1939 ----	able <u>2/</u>	n.a.	1,221,259	1,220,749	510	N
1943 ----		<u>3/</u> 17,404,290	9,300	-	9,800	E
Value (dollars)						
1937 ----	Not	n.a.	56,770	56,770	-	N
1938 ----	avail-	n.a.	91,968	91,968	-	O
1939 ----	able	n.a.	24,640	24,626	14	N
1943 ----		<u>3/</u> 874,111	390	-	390	E

^{1/} Includes Austria beginning 1938.^{2/} Estimated 60 to 80 million pounds.^{3/} Includes 2,454,134 pounds, valued at \$155,670 exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed negotiating country</u>
	<u>Act of 1930</u>	<u>1945 rate</u>	
	<u>Percent ad valorem</u>		
Par. 372			
Forged steel grinding balls -----	27½	27½	UNITED KINGDOM

Comment

Forged steel grinding balls are made from high-carbon steel forging billets in various types of machines. They are used as grinding media in ball mills, largely by the cement industry. They are also used for pulverizing many other products, especially ores and concentrates. Ball mills compete with rod mills, pebble mills, and various other types of grinders and pulverizers.

An application for increase in duty under Section 336 of the Tariff Act of 1930 was dismissed by the Tariff Commission in November 1939, after Germany, the principal supplier of imports, became involved in war.

Production in the United States is about equally divided between midwestern and eastern producers, and those in the Rocky Mountain area and the West Coast.

The prewar imports, almost exclusively from Germany, probably undersold the domestic product to some extent. It is doubtful whether the trade will be resumed to any appreciable degree if steel production in Germany is curtailed drastically.

COMBINATION CASES AND SHARPENERS FOR SAFETY RAZORS
(See related digest on "Cases and sharpening devices for safety razors," par. 397)

Stat. import class (1939): 6117.8

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	Denmark	Switzerland
	Value (dollars)					
1937 ----	N	N	n.a.			
1938 ----	O	O	n.a.			
1939 ----	N	N	45,566	44,832	452	282
1943 ----	E	E	24,025	24,025	-	-

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		

Par. 372

Combination cases and sharpening mechanisms for safety razors ---

27½

1/ 22½

UNITED KINGDOM

1/ Trade agreement with the United Kingdom, effective January 1939.

Comment

These articles are the cases incorporating devices for honing and stropping the forged and hollow ground blades of the Rolls razor. The Rolls razor blade and handle are dutiable under paragraph 358 at 5 cents each plus 15 percent ad valorem (trade agreement with the United Kingdom, effective January 1939).

The Rolls safety razor sells in the United States in only small numbers because of its very high price, and it has no counterpart of American manufacture. It should not be considered closely competitive with such American-made razors as the "Gillette" and "Gem," which are sold here in great numbers at much lower prices. The American safety-razor industry has a good export market.

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TO THE SECRETARY OF AGRICULTURE
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FROM THE DIRECTOR OF THE BUREAU OF PLANT INDUSTRY
WASHINGTON, D.C.

SUBJECT: [Illegible]

RECEIVED
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WASHINGTON, D.C.

SUBJECT: [Illegible]

STEAM AND HYDRAULIC TURBINES AND PARTS

Stat. import classes (1939): 711.00, 711.01, and 780.95

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Switzerland	UNITED KINGDOM	Canada	
	Value (1,000 dollars)						
1937 --	38,428	601	42	3	37	<u>1</u> /	
1938 --	n.a.	292	113	105	6	-	
1939 --	28,339	197	101	86	14	1	
1943 --	n.a.	<u>2</u> / 1,702	<u>3</u> / 65	9	8	49	

1/ Less than \$500.

2/ Includes 215 thousand dollars exported under lend-lease.

3/ Free for Government use, imports valued at 20 thousand dollars; also includes imports valued at 11 thousand dollars, duty-free as an act of international courtesy.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 372			
Steam turbines and parts -----	20	1/ 20	UNITED KINGDOM
Hydraulic reaction turbines and hydraulic impulse wheels-----	27 1/2	2/ 15	do.
1/ Bound under trade agreement with the United Kingdom, effective January 1939.			
2/ Trade agreement with Switzerland, effective February 1936.			

Comment

Almost all power from steam or water is now obtained by means of turbines, with the exception of locomotives and small portable engines. Included here with water turbines are the smaller wheels for high water pressures, usually known technically as impulse wheels. Turbines vary in capacity from a fraction of a horsepower to over 200,000 horsepower and are used principally for the production of electric power and for ship propulsion. The largest builders are the electrical and shipbuilding companies, but numerous other firms build turbines, especially the smaller sizes. A possible competitor of the steam turbine is the gas turbine, now in process of development.

The United States is the largest user and producer of turbines. The principal foreign producers equipped to build the larger units are Great Britain, Switzerland, Germany, and Japan, but a number of other industrial European countries produce the smaller sizes.

Large turbines for electric power are usually built as a unit with the generator, and often much of the other electrical equipment is obtained from the same supplier. The domestic manufacturer has a competitive advantage over the foreign producer in that he can give the buyer more convenient consultation service on design and installation, and can give better service in supplying replacement parts. A large

STEAM AND HYDRAULIC TURBINES AND PARTS-Continued

turbine was imported from Switzerland some years ago, but there have been no large units imported since. Several smaller turbines of special design have been imported but imports have consisted principally of repair and replacement parts. Imports of turbines and parts have been very small in relation to domestic production. Imported machinery doubtless would not be used for the increasingly large electric power installations undertaken by the Government.

Steam and hydraulic turbines and parts: United States imports for consumption, by kind, with principal sources, 1939

Kind	Total value	Principal sources
Steam turbines -----	\$60,069	Switzerland, \$60,069
Steam turbine parts -----	40,943	Switzerland, \$25,769; UNITED KINGDOM, \$13,642
Hydraulic turbines and wheels --	--	--

Source: Official statistics of the U. S. Department of Commerce.

STEAM LOCOMOTIVES AND PARTS

Par. No. 372
CANADA
UNITED
KINGDOM

Stat. import class (1939): 711.02-711.03

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	CANADA	UNITED KINGDOM	
	Value (dollars)					
1937 ---	53,997,000	3,729,000	31,913	31,129	784	
1938 ---	n.a.	5,544,000	31,224	28,514	146	
1939 ---	21,013,000	2,439,000	66,701	60,617	4,828	
1943 ---	n.a.	168,761,000	14,223	12,903	1,125	

1/ Includes merchandise valued at \$61,530,433 exported under lend-lease.
Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 372			
Steam locomotives and parts -----	15	15	CANADA, UNITED KINGDOM

Comment

Steam locomotives are still the principal means of supplying railroad motive power, although the use of electric and diesel locomotives has been increasing rapidly. For switching and some industrial service steam locomotives have to a great extent been superseded by diesels. In the United States there are two major builders and one minor builder of steam railroad locomotives; a number of concerns build the smaller industrial locomotives. Although the major companies also produce railroad diesels and electrics, they are constantly improving their steam locomotives to meet the specific problems of different railroads. Steam-turbine locomotives, for example, are now being tried in service.

The United States has more than one-third of the railroad track mileage of the world, and is much the largest locomotive builder. Great Britain, Germany, and Czechoslovakia are leading foreign producers and exporters.

Locomotives used in international train service, as for example across the Canadian border, are not dutiable. However, repairs made in Canada on locomotives of United States railroads are dutiable. Likewise, repairs made in Canada on Canadian-made locomotives used wholly in the United States would be dutiable. Imports under the classification here considered have consisted entirely or almost entirely of repairs made in Canada on locomotives of United States railroads.

STEAM LOCOMOTIVES AND PARTS--Continued

Steam locomotives and parts: United States imports for consumption,
by kind, with principal sources, 1939

Kind	Total value	Principal sources
Steam locomotives -----	nil	
Steam locomotive parts -----	\$66,690	CANADA, \$60,617; UNITED KINGDOM, \$4,817

Source: Official statistics of the U. S. Department of Commerce.

RECIPROCATING STEAM ENGINES AND PARTS EXCEPT LOCOMOTIVES

Stat. import class (1939): 711.09

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	CANADA	Germany <u>1/</u>
	Value (dollars)					
1937 ---	1,154,551	416,674	40,426	18,598	19,875	22
1938 ---	n.a.	558,284	17,007	14,339	113	1,223
1939 ---	1,738,296	320,708	14,333	14,127	206	-
1943 ---	n.a.	<u>2/</u> 2,138,805	<u>3/</u> 963,133	4,016	959,117	-

1/ Includes Austria beginning 1938.2/ Includes merchandise valued at \$1,663,705 exported under lend-lease.3/ Free for Government use, \$952,019 from Canada.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 372			
Reciprocating steam engines (except locomotives) and parts -----	15	<u>1/</u> 10	CANADA, UNITED KINGDOM

1/ Trade agreement with the United Kingdom, effective January 1939.Comment

Reciprocating steam engines (the piston and crank type of engine) have been nearly superseded in large sizes by steam turbines and in smaller sizes by oil or gasoline engines. Piston steam engines are well suited to the generation of moderate amounts of power where waste wood or other waste fuel is available, or where exhaust steam can be used for other purposes. An improved form, the uniflow engine, finds use under the latter conditions. During the war reciprocating steam engines instead of turbines or Diesel engines were installed in many emergency-built ships because less time and skill is required to build them. A considerable number of piston steam engines are still used in tug boats. Most of the builders of reciprocating steam-engines now also build steam turbines or internal combustion engines. A considerable part of the imports here considered in recent years has been of parts, presumably for foreign engines in use in the United States.

INTERNAL COMBUSTION ENGINES: CARBURETOR TYPE AND PARTS

Stat. import classes (1939): 711.12 and 711.13

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption ^{1/} from--				
			All countries	Sweden	UNITED KINGDOM	Canada	Germany ^{2/}
	Value (dollars)						
1937	37,485,032	5,052,631	38,938	13,709	8,196	1,811	7,341
1938	n.a.	4,663,838	41,639	5,447	16,226	568	2,647
1939	59,770,490	4,762,636	1,839	818	671	110	78
1943	n.a.	366,345,743	4/313,422	-	2,058	202,214	-

^{1/} Classified as "internal combustion engines other than Diesel type" in 1937 and 1938.

^{2/} Includes Austria beginning 1938.

^{3/} Includes \$62,151,334 exported under lend-lease.

^{4/} Free for Government use, \$200,248; also includes dutiable imports from Mexico, valued at \$109,150.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		

Par. 372

Machines, finished or unfinished,
n.s.p.f.; and parts thereof
wholly or in chief value of
metal or porcelain, n.s.p.f.:

Internal combustion engines,

carburetor type, and parts ----- 27½ ^{1/}17½

UNITED KINGDOM

^{1/} Trade agreement with the United Kingdom, effective January 1939.

Comment

This digest does not cover automobile, airplane, or pleasure boat engines, which are discussed in digests relating to those vehicles.

The carburetor engine is the common gasoline engine used as a source of small amounts of power, for marine or land use. The volatile fuel is vaporized in the carburetor and burned in the cylinders. When considerable amounts of power are needed, diesel engines or steam turbines are more economical.

Gasoline engines are made in the United States in large numbers by well-established firms. Not only is the value of production in the United States many times greater than in the United Kingdom, but even United States exports were larger than the total production in Great Britain in 1935, the latest year for which British data are available.

DIESEL AND SIMILAR ENGINES

Stat. import classes (1939): 711.20; 711.23; 711.25; 711.29, 711.30;
711.33; 711.35; 711.39

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	UNITED KINGDOM	Sweden	Germany ^{1/}	Denmark
	Value (1,000 dollars)						
1937	75,788	4,727	871	65	61	671	26
1938	n.a.	5,011	344	53	58	188	7
1939	71,560	5,152	372	100	96	87	33
1943	n.a.	^{2/} 70,241	^{3/} 383	19	^{4/}	2	-

^{1/} Includes Austria beginning 1938.

^{2/} Includes exports under lend-lease valued at 61,643 thousand dollars.

^{3/} Free for Government use 334 thousand dollars, principally from Canada; also includes 29 thousand dollars duty-free as an act of international courtesy.

^{4/} Less than \$500.

Source: Official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed
negotiating
country

Act of 1945
1930 rate

Percent ad valorem

Par. 372

Machines, finished or unfinished,
n.s.p.f.; and parts thereof,
n.s.p.f.:

Internal combustion engines, other
than carburetor type, and parts:

Horizontal:

Not over 500 pounds each ----- 27 $\frac{1}{2}$ ^{1/} 17 $\frac{1}{2}$
Over 5,000 pounds each ----- 27 $\frac{1}{2}$ 27 $\frac{1}{2}$

UNITED KINGDOM
do.

Other:

Not over 2,500 pounds each ----- 27 $\frac{1}{2}$ ^{1/} 17 $\frac{1}{2}$
Over 2,500 pounds each ----- 27 $\frac{1}{2}$ 27 $\frac{1}{2}$

do.
do.

^{1/} Trade agreement with the United Kingdom, effective January 1939.

Comment

Internal combustion engines of other-than-carburetor type are principally diesel engines, in which a charge of air in the cylinder is raised to a high temperature by compression and ignites the oil fuel which is injected into the cylinder under high pressure. These engines use low-priced fuel oil and are economical in operation. Some modifications employ a spark plug or other means of ignition. Diesel engines are widely used. They are not built in sizes comparable with the larger steam or water turbines, but are used in moderate sizes for ships, for electric power generation, and for many other purposes. They vary considerably in design; some, relatively small and light, run at high speeds; heavier engines, often called the heavy-duty type, run at slower speeds and are designed for long continuous service.

Diesel engines are built in the United States by many firms, both large and small. Some make both the high-speed and the heavy-duty type; others specialize in one or the other. All industrial countries produce diesel engines, Sweden, Switzerland, and Germany being especially prominent.

DIESEL AND SIMILAR ENGINES-Continued

A small diesel engine of the heavy-duty type was built by two or three firms in England before the war and some were imported into the United States. Small engines were also made in the United States but they were not so characteristically of the heavy-duty type. The weight classification in the trade agreement with the United Kingdom was designed to reduce the duty on small engines only, since Germany at that time seemed to be the potential supplier of larger engines. American builders are now not only developing production of the small sizes, but are also producing large engines of ever-increasing horsepower. In 1935 British and United States production of all diesel engines was about equal, but by 1937 United States production had increased by $4\frac{1}{2}$ times. No comparable figures for British production are available.

Internal combustion engines; other than carburetor type and parts;
United States imports for consumption, by kind, with
principal sources, 1939

Kind	Total value	Principal sources
Horizontal:		
Not over 5,000 lb. each -----	\$16,259	UNITED KINGDOM, \$16,259
Not over 5,000 lb. parts of --	12,612	Sweden, \$7,775; UNITED KINGDOM, \$2,965
Over 5,000 lb. each -----	9,267	UNITED KINGDOM, \$7,245; Germany ^{1/} \$2,022
Over 5,000 lb. parts of -----	27,538	Sweden, \$11,345; Denmark, \$6,495; Switzerland, \$5,666.
Other:		
Not over 2,500 lb. each -----	57,322	UNITED KINGDOM, \$52,223; Sweden, \$2,248; Germany, ^{1/} \$2,187
Not over 2,500 lb. parts of --	96,750	Sweden, \$41,207; Germany, ^{1/} \$40,485; UNITED KINGDOM, \$8,233.
Over 2,500 lb. each -----	54,677	Denmark, \$18,101; Germany ^{1/} \$17,586; Belgium, \$6,923.
Over 2,500 lb. parts of -----	97,676	Sweden, \$28,091; Germany ^{1/} \$23,284; Norway, \$18,753; UNITED KINGDOM, \$11,454

^{1/} Includes Austria.

Source: Official statistics of the U.S. Department of Commerce.

MACHINE TOOLS, INCLUDING GEAR CUTTERS, EXCEPTING JIG BORERS

Stat. import classes (1939): 7400.2, 7400.8

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports ^{1/}	Imports for consumption from--				
			All countries	Germany ^{2/}	Switzerland	Sweden	UNITED KINGDOM
	Value (1,000 dollars)						
1937	268,656	39,385	n.a.				
1938	n.a.	65,416	n.a.				
1939	289,699	81,128	268	104	84	36	33
1943	3/1,366,025	4/258,198	5/2,049	-	29	-	36

- ^{1/} Not strictly comparable for the different years or with imports.
^{2/} Includes Austria beginning 1938.
^{3/} Estimated shipments, from reports of War Production Board for 9 months of 1943.
^{4/} Includes 231, 899 thousand dollars exported under lend-lease.
^{5/} Free for Government use, 1,491 thousand dollars, principally from Canada, and free as an act of international courtesy, 10 thousand dollars, principally from the United Kingdom; also includes dutiable imports amounting to 462 thousand dollars from Canada.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
	<u>Percent ad valorem</u>		
Par. 372			
Machines for cutting or hobbing gears -----	40	40	UNITED KINGDOM
Machine tools <u>1/</u> (except jig borers and gear cutters) -----	30	30	do.
<u>1/</u> Metal-working machine tools that progressively remove metal in the form of chips.			

Comment

The machine tools here considered are those that remove metal in the form of chips. ^{1/} Another digest considers all machinery which employs a tool for work on metal excepting the machine tools here included.

The United States is the world's largest producer and exporter of machine tools. American machine tools are recognized throughout the world as of the highest quality, especially those designed for the mass production of other machinery. The principal other countries which export machine tools are Germany, the United Kingdom, Switzerland, and Sweden. Although foreign builders before the war were steadily improving the quality and designs of their machine tools, the American product was very commonly preferred by those foreign buyers with whom quality rather than price was the first consideration.

Imports of machine tools into the United States have always been insignificant compared with the domestic production. They have consisted largely of special types of machines for which there is so little demand that domestic concerns considered it not worth while to make them. In many instances where foreign-made machines showed improvements over the previous domestic product, equivalent or better machines were thereupon designed and built by American manufacturers. Imports of

^{1/} Definition of machine tools as set forth by National Machine Tool Builders' Association.

MACHINE TOOLS, INCLUDING WEAR CUTTERS, EXCEPTING JIG BOPPERS-Continued

the tools, herein discussed, were about one-third the imports of all metalworking machines in 1939. Imports in 1939 were much smaller than in the previous years, probably because of war preparations in Europe.

JIG BORERS

Par. No. 372
UNITED KINGDOM

Stat. import class (1939): 7400.7

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from---			
			All countries	Switzerland	Canada	UNITED KINGDOM
			Value (dollars)			
1937 —	2,072,640	Not avail- able ^{2/}	184,939	183,741	—	40
1938 —	n.a.		107,259	107,259	—	—
1939 —	2,928,355		51,948	51,755	136	57
1943 —	n.a.		1,920	—	225	1,695

^{1/} Production figures are for "precision boring machines including jig borers". The latter probably account for less than half of the total.

^{2/} Exports small and probably less than imports.

Source: Official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed negotiating country

Act of 1930 1945 rate
Percent ad valorem

Par. 372

Jig-boring machine tools ----- 30 1/15 UNITED KINGDOM

^{1/} Trade agreement with Switzerland, effective February 1936. The agreement does not include parts; but such parts, not specially provided for, wholly or in chief value of metal or porcelain, are dutiable at same rate as the articles of which they are components, by virtue of a proviso to paragraph 372 of the Tariff Act of 1930.

Comment

A jig is a hardened plate of steel used as a pattern for determining the precise location of holes to be drilled simultaneously in metal parts, thereby making interchangeable parts. A jig-boring machine is a precision machine tool for locating and drilling holes in the jig prior to its being hardened.

There are only a few builders of jig borers in the United States. Major domestic production probably centers in New England (Connecticut) and the Midwest (Ohio and Wisconsin). In the past, domestic machines were generally of limited adaptability, but with the increased production during World War II and the necessity of largely doing without imported machines, the quality of the domestic product has doubtless improved. Nevertheless, it is probable that certain precision machines necessary as accessories for mass production, including jig-boring machines will continue to be imported.

Switzerland has been the principal world producer of highly accurate and adaptable jig-boring machine tools. United States imports of such tools have all been from Switzerland, with only a very few parts and attachments from other sources.

METALWORKING MACHINERY (OTHER THAN MACHINE TOOLS
WHICH REMOVE METAL IN THE FORM OF CHIPS, AND
JIG-BORING MACHINES), INCLUDING PUNCHES,
SHEARS, BAR CUTTERS, AND PARTS

Stat. import classes (1939): 7400.3 and 7400.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports ^{1/}	Imports for consumption from--				
			All countries	Germany ^{2/}	UNITED KINGDOM	Switzer- land	Sweden
	Value (1,000 dollars)						
1937	135,755	24,112	3/ 755	468	24	197	34
1938	n.a.	35,630	3/4/ 798	371	63	184	63
1939	112,570	35,541	343	183	54	52	21
1943	5/460,486	6/ 75,387	7/ 331	-	85	-	-

^{1/} Not strictly comparable from year to year or with imports.

^{2/} Includes Austria beginning 1938.

^{3/} Includes nonportable machine tools, other than jig-boring and gear cutters.

^{4/} Includes imports from the Netherlands amounting to 100 thousand dollars.

^{5/} Estimated shipments.

^{6/} Includes 46,324 thousand dollars exported under lend-lease.

^{7/} Free for Government use 56 thousand dollars and free as an act of international courtesy 28 thousand dollars imported from Canada and United Kingdom; also includes dutiable imports amounting to 184 thousand dollars from Canada.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
Par. 372	Percent ad valorem		
Punches, shears, and bar cutters, intended for use in fabricating structural or other rolled iron or steel shapes, and parts ----	40	40	UNITED KINGDOM
Machine tools, (except jig- boring machine tools) and parts ^{1/} -----	30	30	do.
^{1/} Not including machine tools which progressively remove metal in the form of chips, and jig-boring.			

Comment

All kinds of metalworking machines that employ tools for work on metal, with the exception of jib borers and other machine tools which remove metal in the form of chips, are here under consideration. (Such machine tools and jib borers are treated in separate digests, paragraph 372.) Typical of the equipment covered herein are forging machines, rolling mills, presses of all types, benders, wire and sheet-metal equipment, and bar cutters. These machines range from small hand- or foot-powered presses and riveting machines costing a few dollars each to enormous installations which may cost millions of dollars.

As in the case of machine tools, the United States is much the largest producer of these metal working machines and has by far the largest domestic market. A large proportion of the machines built in the United States are specially designed for the mass-production methods characteristic of American industry. There are probably more than 100 manufacturers in the domestic industry, employing perhaps 50,000 persons, most of whom are highly skilled mechanics. The plants are distributed throughout the United States, with a great concentration east of the Mississippi and north of the Ohio River.

METALWORKING MACHINERY (OTHER THAN MACHINE TOOLS
WHICH REMOVE METAL IN THE FORM OF CHIPS, AND
JIG-BORING MACHINES), INCLUDING PUNCHES,
SHEARS, BAR CUTTERS, AND PARTS—Continued

In 1937 imports of this general class of machinery amounted to about one-half of one percent of United States production and about 3 percent of exports.

A powerful deterrent to imports is the difficulty of securing prompt service for replacement parts for imported equipment.

A substantial part of the imports probably consists of repair parts for foreign made machines.

Metal working machinery (other than machine tools): United States
imports for consumption, by kind, with principal sources, 1939

Kind	: Total	:	Principal sources
	: value	:	
Punches, shears and bar	:	:	
cutters -----	\$18,751	:	Germany ^{1/} \$15,952; UNITED KINGDOM,
	:	:	\$2,799.
Other metal-working tools	:	:	
and parts. -----	354,369	:	Germany ^{1/} \$167,225; Switzerland, \$51,885;
	:	:	UNITED KINGDOM, \$50,974; Sweden, \$20,778.

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

TEXTILE MACHINERY—(Summary Digest)
(For more detailed information on specific
types of machines, see separate digests)

Par. No. 372
UNITED KINGDOM
CZECHOSLOVAKIA
FRANCE

Stat. import classes (1939): 7495.0-7515.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from—				
			All countries	Germany <u>1/</u>	UNITED KINGDOM	FRANCE	CZECHO- SLOVAKIA
			Value (1,000 dollars)				
1937	97,429	10,960	2,973	1,795	878	164	38
1938	n.a.	7,540	2,396	1,514	594	97	16
1939	83,063	9,088	2,347	1,253	896	121	2
1943	n.a.	<u>2/</u> 6,802	<u>3/</u> 774	<u>4/</u>	653	-	-

^{1/} Includes Austria beginning 1938.

^{2/} Includes merchandise valued at 405 thousand dollars exported under lend-lease.

^{3/} Includes 119 thousand dollars imported from Switzerland.

^{4/} Less than \$500.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
Par. 372	<u>Percent ad valorem</u>		
Textile machinery and parts:			
Embroidery machines and parts, except shuttles -----	30	30	FRANCE, UNITED KINGDOM
Lace-making machines, and machines for making lace curtains, nets, and nettings (except levers or go- through lace machines), and parts -----	30	1/15	UNITED KINGDOM
Levers or go-through lace machines and parts -----	30	30	do.
Knitting machines and parts:			
Full-fashioned hosiery machines and parts -----	40	40	do.
Circular machines and parts --	40	1/20	do.
Other, and parts -----	40	2/27½	do.
Braiding, lace braiding, and insulating machines, and all other similar textile machinery and parts -----	40	1/20	do.
All other textile machinery, n.s.p.f., and parts:			
Textile machinery for manu- facturing or processing, prior to the making of fabrics or woven, knit, crocheted, or felt articles not made from fabrics (except worsted combs, bleaching, printing, dyeing, or finishing machinery, or machinery for making synthetic textile filaments, bands, strips, or sheets) -----	40	1/20	do.

TEXTILE MACHINERY--Continued

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u> <u>negotiating</u> <u>country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
	<u>Percent ad valorem</u>		
Textile machinery and parts:--Continued			
All other textile machinery, etc.--Continued			
Worsted combs, bleaching, printing, dyeing, or finishing machinery, and machinery for making synthetic textile filaments, bands, strips, or sheets -----	40	40	UNITED KINGDOM
Looms and parts -----	40	40	UNITED KINGDOM, CZECHOSLOVAKIA (parts only)
Other, n.s.p.f., and parts -----	40	1/25	UNITED KINGDOM
Machines, n.s.p.f., and parts:			
Cordage machines and parts -----	27½	1/20	do.
1/ Trade agreement with the United Kingdom, effective January 1939.			
2/ Trade agreement with Switzerland, effective February 1936.			

Comment

The textile-machinery industry is composed of many branches, the products of which differ widely in character and in respect of competition of imports with domestic production. Some machines are relatively simple, others are among the most complicated devices produced. They are made in most of the important textile producing countries, but particularly in the United Kingdom, the United States, Germany, France, Switzerland, and Japan. It is reported that before the war exports from the United Kingdom accounted for about 40 percent of the total exports from the six countries, while exports from Germany and Japan together accounted for 45 percent.

During the war a very large part of the capacity in the United States and Great Britain as well as in other countries, was converted to war production. This has given rise to a very large accumulated demand for textile machinery in all textile-manufacturing countries, since new machinery has been largely unavailable for about 6 years. Moreover, depreciation of existing machinery has been hastened by wartime operation at high pressure with a minimum of maintenance. Therefore, world demand, as well as United States demand, for textile machinery is likely to remain high for a number of years. The United States and the United Kingdom will probably supply the bulk of the demand because many of the German and Japanese textile-machinery factories are reported to have sustained heavy damage from air attacks during the war and may not be allowed to resume their former positions because of the ease with which the plants can be converted to war purposes.

The United States is the largest consumer and probably the largest manufacturer of textile machinery, considered as a group, but some types of textile machinery are not produced here. Normally, domestic output amounts to about 100 million dollars annually. The industry is highly specialized, manufacturers generally restricting their production to one or a few types.

Before the war the combined imports of all types of textile machinery into the United States amounted to only about 5 percent of total domestic production. However, as to some types imports offer keen competition to the American manufacturers.

TEXTILE MACHINERY--Continued

Domestic exports amount to 10 or 15 percent of production, as compared with a ratio of 40 to 50 percent for the United Kingdom in prewar years. The principal foreign markets for the American machines are Canada and the United Kingdom, but exports to Canada are generally double those to the United Kingdom. These two countries normally account for about half of the exports from the United States. In 1939 they accounted for nearly 60 percent. Latin American countries, particularly Colombia, Mexico, Brazil, Argentina, and Cuba, are also important markets. However, the export pattern may change somewhat in the next few years, depending upon the ability of the United States to become established in former German and Japanese export markets.

The general status of the domestic industry in 1939 is indicated in the following table, which compares domestic production of the various types of textile machinery with exports and imports.

Textile machinery: United States production, imports, and exports, by kind, 1939

(In thousands of dollars)

Kind	Production	Exports ^{1/}	Imports ^{1/}
Yarn machinery, except for synthetic fibers:			
Cotton -----	12,658	1,638	313
Wool -----		143	244
Other -----		195	119
Synthetic fibers -----	2/n.a.	2/n.a.	41
Winders -----	2,926	1,140	29
Beaming, warping, slashing machines -----	1,215	56	10
Hosiery knitting machines:			
Full fashioned -----	10,345	553	933
Circular -----		538	112
Other circular knitting machines -----	621	234	
Knitting machines, other than full fashioned and circular -----	2/ 532	4/	126
Parts of knitting machines -----	n.a.	916	n.a.
Braiding machines -----	457	366	15
Looms -----		1,300	48
Embroidery machines -----	7,472	n.a.	26
Cordage machines -----		n.a.	114
Lace machines -----	-	-	127
Bleaching, dyeing, printing, and other finishing machines -----	7,585	168	14
Other textile machinery -----	3,691	1,811	76
Parts, attachments, and accessories for textile machinery -----	33,961	4/	4/
Total -----	83,063	9,038	2,347

1/ Parts included with the respective types of machinery.

2/ Production is known to be substantial.

3/ Includes loopers.

4/ Included with the respective types of machinery.

Source: Official statistics of the U. S. Department of Commerce.

The United Kingdom is the negotiating country for all textile machinery. Besides the United Kingdom, Czechoslovakia and France are also negotiating countries for looms and embroidery machines. Before the war the British industry was second in output only to the United States, according to the statistics in the following table, but as indicated previously it was much more dependent upon exports than the American industry. It is reported that the British manufacturers plan to increase the ratio of exports to production to 70 percent or more in the post-war recovery period. Their principal markets normally are in the British Empire,

TEXTILE MACHINERY--Continued

particularly India, but they report that because of the extended delivery dates offered India plans to build some of its own textile machinery.

A comparison of the production and foreign trade of the United States with that of the United Kingdom is given below for 1935, the last year for which production data are available for the United Kingdom. The data for the two countries are not strictly comparable, but are sufficiently comparable to indicate the relative importance of the production and trade in the various groups of machinery in each of the countries.

Textile machinery, parts, and accessories: Production, exports, and imports of the United States and the United Kingdom, by kinds, 1935

(In thousands of dollars)						
Kind	Production		Exports		Imports	
	United States ^{1/}	United Kingdom	United States	United Kingdom	United States	United Kingdom
For spinning and twisting, including all preparatory processes -----	7,075:	31,361:	2/ 2,624:	23,171:	270:	956
For processes preparatory to weaving, but subsequent to spinning and twisting ----	4,426:	1,417:	3/ 800:	760:	n.a.:	172
Knitting -----	7,707:	4,274:	1,728:	2,142:	287:	2,760
Bleaching, dyeing, printing, and other finishing -----	5,266:	5,245:	n.a.:	1,446:	n.a.:	245
Lace and net -----	-:	240:	-:	240:	127:	15
Looms -----	n.a.:	10,171:	4/ 224:	4,657:	n.a.:	941
Other textile machinery ----	11,134:)	3,765:)	2,983:)	1,475:)	618:)	1,397
Parts and accessories ----	27,284:)	:	:	:	:	:
Total -----	62,892:	56,473:	8,359:	33,891:	1,302:	6,486

^{1/} Parts and accessories are not reported for the individual types of machines, but combined under one figure at the end of the table.

^{2/} Includes wool looms. ^{3/} Winders. ^{4/} Cotton looms.

Source: United States - Official statistics of the U. S. Department of Commerce; and United Kingdom - Final Report on the Fifth Census of Production and the Import Duties Act Inquiry, 1935, Part II (London).

Textile machinery imported into the United States in 1939 is shown in the following table by types and principal sources. The table shows that while the United Kingdom was the principal source for many types of machinery, Germany was the principal source for some very important types such as full-fashioned knitting machinery, the imports of which were much larger than those of any other single item and accounted for about 40 percent of the total imports of textile machinery in 1939. France was also an important source for certain types. Following the table is a brief discussion of the competitive conditions in the principal branches of the domestic industry.

TEXTILE MACHINERY--Continued

Textile machinery and parts: United States imports for consumption,
by kinds with principal sources, 1939

Kind	Value	Principal sources
Garding, and other preparing, spinning, and twisting ma- chinery and parts:		
For cotton -----	\$312,441	UNITED KINGDOM, \$264,582; Germany, ¹ / ₁ / \$45,833
For jute -----	36,897	UNITED KINGDOM, \$36,800
For wool:		
Worsted combs -----	84,601	UNITED KINGDOM, \$67,734; France, \$14,938; Germany, ¹ / ₁ / \$1,650
Other -----	159,139	UNITED KINGDOM, \$77,233; France, \$58,238; Germany, ¹ / ₁ / \$23,390
Other -----	82,169	UNITED KINGDOM, \$53,491; Germany, ¹ / ₁ / \$16,414; France, \$8,370
Machinery and parts for making synthetic textile fibers -----	41,217	Germany, ¹ / ₁ / \$17,795; UNITED KINGDOM, \$12,964
Winders and parts -----	28,408	Germany, ¹ / ₁ / \$16,773; France, \$7,538; Switzerland, \$3,932
Beaming, warping, and slashing machinery, and parts -----	10,141	Germany, ¹ / ₁ / \$4,951; Switzerland, \$4,492
Knitting machinery and parts:		
Full fashioned -----	932,939	Germany, ¹ / ₁ / \$932,939
Circular -----	111,595	UNITED KINGDOM, \$103,345; Germany, ¹ / ₁ / \$7,726
Other -----	126,273	Germany, ¹ / ₁ / \$96,625; Switzerland, \$23,767; UNITED KINGDOM, \$5,246
Braiding, insulating, and similar textile machines and parts -----	14,933	France, \$5,381; Germany, ¹ / ₁ / \$3,677; UNITED KINGDOM, \$2,372
Looms:		
Pile -----	2,609	Germany, ¹ / ₁ / \$2,609
Other -----	19,932	Germany, ¹ / ₁ / \$16,318; Switzerland, \$3,000; UNITED KINGDOM, \$604
Parts -----	25,601	Germany, ¹ / ₁ / \$16,194; UNITED KINGDOM, \$3,788; Switzerland, \$2,603; Czechoslovakia, \$927
Embroidery machines and parts -----	26,340	Switzerland, \$11,754; Germany, ¹ / ₁ / \$10,655; FRANCE, \$3,236
Lace and net machines and parts:		
For lace curtains, nets, and netting -----	65,612	UNITED KINGDOM, \$65,583
Levers or go-through -----	39,758	UNITED KINGDOM, \$39,758
Other -----	21,338	UNITED KINGDOM, \$21,591
Bleaching, printing, dyeing, and other finishing machines and parts -----	14,164	Germany, ¹ / ₁ / \$6,202; UNITED KINGDOM, \$5,583
Cordage machines and parts -----	114,256	UNITED KINGDOM, \$114,178
Miscellaneous textile machinery and parts -----	76,114	Germany, ¹ / ₁ / \$33,507; UNITED KINGDOM, \$18,619; France, \$15,933
Total -----	2,346,977	Germany, ¹ / ₁ / \$1,253,258; UNITED KING- DOM, \$895,529; FRANCE, \$121,029; CZECHOSLOVAKIA, \$1,948

¹/₁ Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

TEXTILE MACHINERY--Continued

Machinery for making yarns, except synthetic yarns

The manufacture of equipment for producing textile yarns is the major branch of the domestic textile-machinery industry. It consists principally of cotton- and wool-yarn equipment.

Cotton-yarn machinery consists of all machinery used in textile mills in processing cotton from the time it enters the plant until it is made into yarn. It includes bale breakers, pickers, carding and combing machines, drawing frames, and spinning machines. The United Kingdom is the world's largest producer and exporter; the United States ranks second. Although United States exports are considerably smaller than those of the United Kingdom, cotton-yarn machinery nevertheless constitutes one of the three principal types of textile machinery exported from the United States. The principal foreign markets for the American machines are Canada and Latin America. Domestic manufacturers produce a complete line of high-grade machines and supply practically the total demand of the American cotton mills. The small imports, usually equivalent to only about 1 percent of domestic output, consist principally of replacement parts and accessories from the United Kingdom for British equipment imported in past years.

Wool-yarn machinery comprises a highly diversified line of machines for processing wool into woolen and worsted yarns. The latter are produced by two systems--the British or Bradford system and the French. The United Kingdom is the world's largest producer of wool-yarn machinery, manufacturing a full line of equipment for both woolen and worsted yarn. Its exports are very substantial in both types. Production in France consists principally of equipment for the French worsted system. Production in the United States does not cover as complete a line as that in the United Kingdom. It consists principally of machinery for producing woolen yarn, and worsted yarn by the Bradford system. Recently there has been some production of certain types of machinery for the French worsted system. United States imports consist principally of equipment used in the manufacture of worsted-yarn.

Other types of textile yarn machinery include those for producing jute, flax, and silk yarns. Jute and flax machinery, which is in relatively small demand because the domestic jute and flax manufacturing industry is relatively small, is supplied almost wholly by imports. Domestic manufacturers supply the bulk of the demand for silk-throwing machinery; the small demand for spun-silk machinery is supplied by imports.

Synthetic textile fibers

Synthetic textile yarns are produced largely on machines specially designed and constructed to meet particular conditions in a given textile plant. Relatively few are produced commercially, and those which are produced for sale are usually sold to small yarn manufacturers. Commercial production of the machinery, however, is expected to increase somewhat in the postwar recovery period. Although domestic demand for machines used in the manufacture of synthetic yarns is now supplied almost entirely by United States manufacturers, demand formerly was supplied chiefly by producers in Germany and the United Kingdom. The demand for synthetic yarns, and, therefore, for the equipment for its production, is expected to increase considerably in the next decade, since these yarns probably will displace cotton to a considerable extent, and wool and other natural-fiber yarns to a lesser extent.

Winders

Production in the United States consists principally of high-speed machines of high quality, which supply practically the entire demand in this country. These machines are also in substantial demand in foreign markets, constituting one of the leading types of textile machinery exported from the United States.

TEXTILE MACHINERY--Continued

Knitting machinery

These machines constitute the second largest branch of the textile-machinery industry in the United States, output consisting principally of full-fashioned-hosiery machines and circular machines. In respect to circular machines, the United States is in a strong competitive position, both in domestic and in foreign markets, but the American manufacturers of full-fashioned-hosiery machines before the war met much competition from German producers, who led in the development of these machines. Full-fashioned-hosiery machines constitute by far the largest item in United States imports of textile machinery, in 1939 accounting for about 40 percent of the total imports of all types. Germany not only supplied all of the United States imports of these machines in 1939, but before the war dominated most foreign markets, as its machines were of high quality, sold for lower prices than the American, and were popular in export markets for many years before the United States manufacturers had developed their equipment sufficiently to enter foreign trade.

Before the war other knitting machines, warp and two-bed flat machines, were produced principally in Germany and Switzerland. These machines are used to produce articles of a less staple character than those produced on full-fashioned-hosiery and circular machines, and the demand for the machines is smaller and more subject to fluctuations. Because of this, they have not been produced extensively in the United States. In the decade before the war, however, improvements were made in certain types of the machines which stimulated domestic output somewhat. Developments and refinements continued during the war and output in this country is expected to be stepped-up considerably as material becomes available. Because of the relatively small output in the United States and because of the prestige of the Swiss and German machines, the United States has never been an important factor in export markets. This situation may change somewhat in the future, because of the advances being made in the domestic industry, and because of possible restrictions on German production. A few flat machines have been exported from the United States in the past, but no warp machines.

A warp machine has been developed in Great Britain which promises to be greatly superior to existing machines, and to increase substantially the production of warp knit fabric. If its promise is fulfilled, it may be either imported into the United States or produced here under license.

Looms

The United States is one of the leading world producers and exporters of looms. The American machines are of high quality and constitute the bulk of those installed in domestic textile mills. They constitute one of the principal items in domestic textile-machinery exports, in 1939 ranking second only to cotton-yarn machinery. Imports are small and normally consist principally of types not produced here.

Lace and embroidery machines

Lace machines are not produced in the United States, domestic demand being supplied by British manufacturers. Germany and Switzerland are the principal manufacturers and exporters of embroidery machines; only simple types that are similar to sewing machines are produced in the United States.

Finishing machines

This group consists of bleaching, printing, dyeing, and other types of finishing machines. It ranks third in the domestic textile-machinery industry, output being somewhat greater than that of looms which ranks fourth. United States consumption is large and is supplied principally by domestic manufacturers. Before the war the small imports were principally from Germany. Exports, although relatively small, are substantially greater than imports.

33
CARDING, TWISTING, SPINNING, AND OTHER PREPARING
MACHINERY AND PARTS FOR COTTON

Stat. class (1939): 7515.0

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	Germany ^{1/}	
	Value (1,000 dollars)					
1937 ---	Not	2,105	220	168	48	
1938 ---	avail-	1,550	110	83	24	
1939 ---	able ^{2/}	1,638	312	265	46	
1943 ---	(see text)	1,397	347	347	-	

^{1/} Includes Austria beginning 1938.

^{2/} Production in 1936 was estimated at about 12 million dollars, of which somewhat more than 1 million dollars' worth was exported.

Source: Official statistics of the U. S. Department of Commerce except as noted.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		

Par. 372

Textile machinery, n.s.p.f., and parts:

Machines for carding, preparing,
spinning, or twisting cotton, and
parts ----- 40 ^{1/} 20 UNITED KINGDOM

^{1/} Trade agreement with the United Kingdom, effective January 1939.

Comment

This group consists of machinery for converting raw cotton into yarn. The principal types are (1) machinery for opening and picking the baled fiber, the cotton being passed automatically from one machine to the next for the preliminary opening and cleaning; (2) the card, in which the material is passed between fine wire teeth, called card clothing, which further opens and cleans the fiber, forming it into a thin sheet which is then passed through a funnel-like apparatus from which it is delivered in a loose, untwisted, rope-like form called sliver; (3) the drawing frame, which attenuates the sliver and draws the fibers into a more nearly parallel position; (4) the roving frame, in which the drawing process is carried further and in which a twist is imparted to the fibers; (5) the spinning frame, which produces a cohesive yarn by inserting much more twist than in earlier processes; and (6) the twisting frame, which twists together two or more yarns from the spinning frame to produce a stronger yarn.

A complete line of this group of cotton machinery is produced in the United States. There are only a few domestic producers, but they have been progressive and have succeeded in developing many improvements and simplifications. As obsolescence rather than physical deterioration is the principal factor controlling purchases, improvements in the machines are likely to determine demand. Official production statistics are not available, but it is known that output in the United States amounted to over 11.6 million dollars in 1936. Exports, normally about 10 percent of production, go principally to Canada and South America.

34
CARDING, TWISTING, SPINNING, AND OTHER PREPARING MACHINERY
AND PARTS FOR COTTON--Continued

The United Kingdom is by far the leading world producer and exporter. Germany was the second largest foreign producer before the war, followed by Japan. Cotton machinery is also produced in France, Italy, Spain, Belgium, Switzerland, and the Soviet Union.

Very few complete machines have entered the United States in the past. The relatively small prewar imports, usually equivalent to only about one percent of United States production, were principally replacement parts from the United Kingdom for British machines imported in earlier years, and fittings for attaching imported card clothing. This trade has persisted for a number of years because of the long life of the machines. Imports from other countries have seldom been important.

The duty on this class of machinery was reduced by one-half in the Trade Agreement with the United Kingdom effective January 1, 1939. Imports in 1939, which came predominantly from the United Kingdom, were considerably larger than in 1937 and 1938, but the imports in previous years had been somewhat erratic and all of this increase cannot necessarily be attributed to the reduction in the duty. However, had it not been for the disturbed political and economic conditions in 1939 the imports might have been larger.

When normal peacetime conditions are restored, the imports of such machinery at the present reduced rate may be considerably larger than would enter at the pre-1939 rate.

35
CARDING, TWISTING, SPINNING, AND OTHER PREPARING
MACHINERY AND PARTS FOR JUTE

Stat. class (1939): 7515.1

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM		
	Value (dollars)					
1937 ---	Not	Not	194,668	194,606		
1938 ---	avail-	avail-	195,650	195,650		
1939 ---	able	able	36,897	36,800		
1943 ---	(see text)	(see text)	25,836	25,836		

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		

Par. 372

Textile machinery, n.s.p.f., and parts:

Machines for carding, preparing,
spinning, or twisting jute,
and parts -----

40 1/ 20 UNITED KINGDOM

1/ Trade agreement with the United Kingdom, effective January 1939.

Comment

Jute yarn is used principally for the manufacture of carpets, sackings, twines, and fabrics for sackings, and as covering for bales of cotton. Practically all of the jute-yarn machinery in use in the United States has been imported from the United Kingdom, the leading world producer. There is no domestic production for sale, but occasionally some of the textile mills have produced jute machines for their own use. The machines are relatively heavy and long-lived, and the demand for replacement and expansion usually is not large. For several years prior to the substantial entries in 1937 and 1938, imports amounted to less than \$65,000 a year.

CARDING, TWISTING, SPINNING, AND OTHER PREPARING
MACHINERY AND PARTS--FOR WOOL AND OTHER FIBERS
EXCEPT COTTON AND JUTE

Stat. import classes (1939): 7515.2-7515.4

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from—			
			All countries	UNITED KINGDOM	France	Germany ^{1/}
			Value (dollars)			
1937 —	Not	430,621	325,432	158,382	97,913	58,623
1938 —	avail-	256,563	124,474	69,198	40,807	13,720
1939 —	able ^{2/}	337,914	325,909	198,458	82,046	41,454
1943 —		1,039,375	241,530	241,503	-	-

^{1/} Includes Austria beginning 1938.^{2/} Production in 1936 was estimated at about 5 million dollars, of which \$500,000 was exported.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
Par. 372	<u>Percent ad valorem</u>		
Textile machinery, n.s.p.f., and parts:			
Machines for carding, preparing, spinning, or twisting wool and other fibers, except cotton and jute, and parts:			
Worsted combs _____	40	40	UNITED KINGDOM
Other _____	40	1/ 20	do.
1/ Trade agreement with the United Kingdom, effective January 1939.			

Comment

This report covers machinery used in the manufacture of fibers other than cotton and jute, the principal of such fibers being wool, silk, and flax. There are two types of wool yarns, woolen and worsted. Woolen yarns are made from shorter fibers than worsted yarns, and are softer and have less twist. In preparing wool for woolen and worsted yarns, processes up to carding are the same. The United States machinery manufacturers produce most of these preparatory machines, but for processes beyond carding the extent to which they supply the textile mills varies. They produce a complete line of woolen-yarn machinery and practically all of the equipment for the Bradford (or English) worsted system, one of two systems used in the manufacture of worsted yarns. The other system is the French, which is less widely used and less productive than the Bradford. Very little machinery for this system has been made in the United States until recently, but certain types of domestic manufacture are now on the market. In 1936 total domestic output of all types of machinery for processing wool into yarn amounted to about 2 million dollars.

The United Kingdom is the largest producer of wool-yarn machinery. It manufactures a full line of equipment not only for woolen yarn, but also for both types of worsted. It exports large quantities of all types. France is the second largest foreign producer, but production consists principally of machinery for the French worsted system. Germany produced most types before the war, but its production was principally for the home market. There is some production in other European countries and in Japan.

CARDING, TWISTING, SPINNING, AND OTHER PREPARING
MACHINERY AND PARTS--FOR WOOL AND OTHER FIBERS
EXCEPT COTTON AND JUTE--Continued

United States-prewar imports of wool-yarn machinery were relatively small and consisted principally of worsted machinery. Imported equipment for the English system comes almost exclusively from England and consists principally of worsted combs. These complex machines are long lived and the domestic consumption probably does not average more than 50 combs a year. They are, however, necessary for the production of all worsted cloth made by the Bradford system. There are only two producers in the world. One operates a small shop in the United States, which is devoted wholly to the manufacture of this specialty. The other is a large British machinery producer who exports to this market. Machinery for the French system has come from France.

There are two types of silk machinery. One type produces yarn from very long filaments of raw silk and the other produces spun-silk yarn from short silk fibers or silk waste. In producing yarn from long filaments, a number of the filaments are twisted together by a process known as "throwing". Machinery used in producing yarn from short silk fibers is similar to that used for other short fibers such as cotton and wool. The United States is the leading producer of silk-throwing machinery, output approximating 1.5 million dollars in 1936. Exports usually are substantial, whereas imports are small. Silk-throwing machinery is produced in several European countries, particularly Germany and Switzerland and in Japan, but production in the United States is substantially greater than in foreign countries. Spun-silk machinery is much less important than throwing machinery in both the production and exports of all producing countries. Occasionally some has been made in the United States, but the demand has been too small and too irregular to justify production in this country. Consequently, the small domestic requirements have been supplied almost wholly by imports.

Flax or linen machinery is similar to jute machinery, for which a separate digest has been written, but is finer. Domestic demand for this equipment is small and irregular (the linen industry in this country being small), and is supplied almost wholly by foreign manufacturers.

There is some machinery used for other fibers than those above mentioned, but it is relatively unimportant both in domestic production and in foreign trade.

Imports by types of machines and sources are shown in the following table for 1939.

Carding, and other preparing, spinning, and twisting machinery and
parts for wool and other fibers, except cotton and jute:

United States imports for consumption by kind, with
principal sources, 1939

Kind	Total value	Principal sources
Wool:		
Worsted combs -----	\$84,601	UNITED KINGDOM, \$67,734; France, \$14,938; Germany 1/ \$1,650.
Other -----	159,139	UNITED KINGDOM, \$77,233; France, \$58,238; Germany, 1/ \$23,390
Other, except cotton and jute -----	82,169	UNITED KINGDOM, \$53,491; Germany, \$16,414; France, \$8,870.

1/ Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

SYNTHETIC-TEXTILE-FIBER MACHINERY AND PARTS

Stat. import class (1939): 7503.0

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from --				
			All countries	Germany <u>1/</u>	UNITED KINGDOM	France	Netherlands
	Value (dollars)						
1937	Not	Not	<u>2/</u> 400,649	370,992	7,816	-	-
1938	avail-		473,197	360,260	350	-	111,024
1939	able	avail-	41,217	17,795	12,964	4,144	2,038
1943	(see text)	able	-	-	-	-	-

^{1/} Includes Austria beginning 1938.^{2/} Includes \$21,160 imported from Switzerland.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 372			
Textile machinery, n.s.p.f. and parts:			
Machinery for making synthetic textile filaments, bands, strips, or sheets, and parts ---	40	40	UNITED KINGDOM

Comment

The United States is one of the principal producers of the machinery used in the manufacture of synthetic yarns such as rayon and nylon. Relatively little of this equipment, however, is made by textile-machinery manufacturers, most of it being designed and built by the yarn manufacturers in their own machine shops to fit specific conditions in their own plants. Some is built by other machinery manufacturers according to specifications furnished by the yarn manufacturers.

The first rayon mills in the United States were equipped principally with machinery from Germany, the world's leading exporter. The United Kingdom also supplied substantial quantities for the early domestic rayon mills. However, rayon equipment made in this country has been constantly improved, and before the outbreak of the war it was meeting most of the requirements of the domestic rayon-yarn industry. In 1939 imports decreased sharply and during the war ceased. In the early 1940's the United Kingdom and Switzerland were the principal sources. It is doubtful whether any machinery has ever been supplied by foreign manufacturers for the production of synthetic yarns other than rayon.

WINDERS AND WARP-PREPARATION MACHINERY

Stat. import classes (1939): 7515.5 and 7515.6

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from--				
			All countries	Germany ^{2/}	Switzerland	France	UNITED KINGDOM
	Value (dollars)						
1937	5,949,059	1,920,364	n.a.	n.a.	n.a.	n.a.	n.a.
1938	n.a.	1,021,910	n.a.	n.a.	n.a.	n.a.	n.a.
1939	5,240,600	1,176,380	38,549	21,724	8,424	7,538	863
1943	n.a.	2/796,901	644	-	-	-	583

^{1/} Complete machines only; parts not included.^{2/} Includes Austria beginning 1938.^{3/} Includes merchandise valued at \$44,218 exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed
negotiating
country

Act of	1945
1930	rate
Percent ad valorem	

Par. 372

Textile machinery, n.s.p.f., and parts:

Winders, and beaming, warping, and slashing machinery, and parts -----

40

^{1/} 20

UNITED KINGDOM

^{1/} Trade agreements with the United Kingdom effective January 1939; this rate did not apply to imports from Germany, the largest supplier of imports in 1939.

Comment

After yarn has been produced, it is frequently processed further before it is made into fabric. These processes vary in their nature and extent according to the yarn and to the type of fabric to be produced. Chief among the processes are winding, warping, beaming, and slashing, which are frequently continuous processes, the yarns passing directly from one machine to the next. The winder rewinds the yarn from the spinning-frame bobbins into (1) hanks or skeins for dyeing, or (2) on cones, bobbins, or other forms for dyeing or for use in looms, knitting, and other machines. The warper rewinds yarns from winder packages onto a beam, the number of warp yarns depending upon the width and fineness of the fabric to be produced. After the thread is wound on the warper beams, the beams are transferred to looms or other types of textile machinery, where the warp yarns are used in making fabric. Beaming is similar to warping. The slasher passes yarns through a sizing solution which increases their strength and smoothness so that they can better withstand the strain and friction of weaving. After the sizing is applied, the yarn is dried and then wound on warp beams for the looms.

The United States is one of the leading producers of the machines included in this report. The American equipment is of high quality and is generally preferred by American textile mills to that produced abroad. Of the total amount produced, winders account for about three fourths, based on value. They are mostly high-speed machines.

WINDERS AND WARP-PREPARATION MACHINERY-Continued

Exports amount to about one fourth of the total value of the machines produced in the United States. The leading markets are the United Kingdom, Canada, and South America. Of the machines exported, winders are the most important.

The principal foreign producers and exporters are Germany, and the United Kingdom. Before the war German machines generally sold in foreign markets for less than machines made in other countries, and German exports exceeded those from the United States and the United Kingdom combined.

Import statistics for this group of machines were first available in 1939. For the 3-year period 1939 to 1941 as a whole imports of winders and parts amounted to \$66,000, and of beaming, warping, and slashing machines and parts to \$16,000. During this period Switzerland supplied over half of the imports of winders (based on value); Germany was important only in 1939. Imports of all other types of machines covered by this report were fairly evenly divided between Germany, Switzerland, and the United Kingdom. Total imports, however, constituted a very minor part of domestic consumption, probably less than 1 percent annually.

FULL FASHIONED HOSIERY KNITTING MACHINES AND PARTS

Par. No. 372
UNITED
KINGDOM

Stat. import classes (1939): 7501.1 and 7501.3

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	Germany <u>1/</u>	UNITED KINGDOM	
Value (dollars)						
1937 ---	Not	149,142	766,447	766,306	N	
1938 ---	available	193,037	575,373	575,373	O	
1939 ---	(see	552,856	932,939	932,939	N	
1943 ---	text)	18,963	<u>2/</u> 75	-	E	

^{1/} Includes Austria beginning 1938. ^{2/} All from Canada.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 372			
Full-fashioned hosiery knitting machines and parts -----	40	40	UNITED KINGDOM
Comment			

Full-fashioned hosiery machines, sometimes referred to as Cotton machines, are used primarily in the production of high-grade women's hose. They constitute one of the major branches of the textile-machinery industry, domestic production of complete machines normally amounting to several million dollars annually. Besides the manufacture of complete machines there is also a substantial trade in parts and attachments. United States exports are small both in relation to production and to exports of other textile machinery. On the other hand, full-fashioned hosiery machines constitute a substantial part of all textile machinery imported, in 1939 accounting for about 40 percent of the total value of all types.

The United States normally is the second largest producer, being exceeded only by Germany. There are three domestic manufacturers, the oldest and largest firm probably accounting for 80 percent or more of the total output.

Before the war Germany was the leading producer and exporter. For many years it led in the development of the machines and became established in foreign markets before other countries were able to develop their industries. German machines are of high quality and are highly diversified. Because of this they retained their prestige in all markets up to the outbreak of the war.

The United Kingdom is the third largest producer, but before the war its production was considerably below that of either Germany or the United States. The British machines were used almost entirely in the home market, but were produced in insufficient numbers and diversification to meet the total demand of the British hosiery mills. The British market, therefore, was an important outlet for German machines. However, it is reported that the United Kingdom is now planning a substantial expansion in its hosiery machine industry, which might put it in a stronger competitive position.

FULL FASHIONED HOSIERY KNITTING MACHINES AND PARTS---Continued

Imports into the United States, almost wholly from Germany, supplied a substantial part of the domestic market until 1930, probably as much as 50 percent during the 1920's when the silk-hosiery industry was expanding rapidly. After 1929, when imports are reported to have exceeded 5 million dollars, there was a decline both in relation to domestic production and in actual amounts imported. This was due to several factors: the fact that the latest machines had already been installed in the hosiery mills during the 1920's, the long life of the machines, and the expansion and diversification of the domestic output of such machines, which, since 1929, has been sufficient to supply the normal demands of the mills. The continued demand for German machines, still substantial up the war, was due in part to the fact that some mills which had used German machines for many years continued to prefer them, and in part to the fact that the hosiery mills were still dependent upon the German producers for a few special types that were not produced in the United States.

Before the war imports of parts for German machines amounted to over 10 percent of the total for machines and parts, in some years when imports of machines were small the proportion of parts was much larger.

Imports of machines and parts in 1939 are shown in the following table.

Full-fashioned hosiery knitting machines and parts: United States
imports for consumption, by kinds, with principal sources, 1939

Kind	Total Value	Principal sources
Machines -----	\$856,444	Germany, ^{1/} \$856,444
Parts -----	76,495	Germany, ^{1/} \$76,495

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

CIRCULAR KNITTING MACHINES AND PARTS

Par. No. 372
UNITED KINGDOM

Stat. import classes (1939) 7501.4 and 7501.6

United States production, exports and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from---			
			All countries	UNITED KINGDOM	Germany <u>1/</u>	
			Value (dollars)			
1937 ----	Not	828,285	69,943	58,860	2,169	
1938 ----	avail-	610,976	104,923	68,256	36,457	
1939 ----	able	822,209	111,595	103,345	7,726	
1943 ----	(See text)	75,475	3,081	3,056	-	

1/ Includes Austria beginning 1938.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 372			
Circular knitting machines and parts —————	40	<u>1/20</u>	UNITED KINGDOM
<u>1/</u> Trade agreement with the United Kingdom, effective January 1939.			

Comment

Circular knitting machines, which are used for producing seamless hose, knit under- and outerwear, and knit fabric to be made into garments, constitute one of the most important branches of the domestic knitting-machine industry. The United States is the world's largest producer and probably the leading exporter, although before the war it was meeting increased competition in foreign markets from the United Kingdom and Germany, the principle foreign producing countries, and to some extent from Japan. Exports from 1934 to 1939, inclusive, averaged over \$800,000 annually. The principal markets were the United Kingdom and Canada. Other countries in Europe and in Latin America occasionally have been fairly important outlets.

There are approximately 15 manufacturers in the United States. About one-third produce primarily hosiery machines. The remainder manufacture principally body machines (underwear, outerwear, and fabric machines). In each of these two branches (hosiery and body machines) there is one dominant producer. Official United States Census figures are not available for the output of all types of circular machines, as circular hosiery machines are combined statistically with full-fashioned hosiery machines.

There are five or six producers in the United Kingdom. Output probably exceeds that of any other type of knitting machine and it has been reported that an expansion of the industry has been planned for the postwar period. If this expansion occurs it will probably reduce United States exports to the United Kingdom. Moreover, it might enable the British to compete with United States manufacturers in foreign markets and possibly even in the United States.

CIRCULAR KNITTING MACHINES AND PARTS-Continued

Before the war Germany was our chief competitor in foreign markets, particularly in Latin America and Central Europe. The German machines are reported to be of lower quality than the American and British, and to sell at a lower price.

By the outbreak of the war Japan was also producing circular machines. They were usually simple types of inferior quality. Those exported probably were sold principally in Asiatic markets. Switzerland and France are fairly important producers, but prewar production in France was insufficient for local demands, the French mills depending to a considerable extent on imports for their requirements. Before the war Germany was the principal foreign supplier of the French market; formerly, the United States was important.

Prewar imports into the United States were small in relation to domestic production. They came principally from the United Kingdom and were used to produce a special type of men's hose, which is in relatively small demand, and wool gloves. Although domestic producers met relatively little competition in the home market from foreign circular machines, it is reported that there was some competition between the Jacquard circular machine and the Lamb-type flat knitting machine from Switzerland, both of which produce fancy patterns.

The duty was reduced by one-half by the Trade Agreement with the United Kingdom effective January 1, 1939. Imports in 1939 were somewhat larger than in either of the two preceding years and they might have been larger still but for the disturbed political and economic conditions in the United Kingdom.

The following table shows separately the imports of complete machines and of parts in 1939.

Circular knitting machines and parts: United States imports
for consumption, by kind, by principal sources, 1939

Kind	Total value	Principal sources
Machines -----	\$95,076	UNITED KINGDOM, \$87,672; Germany, ^{1/} \$7,354
Parts -----	16,519	UNITED KINGDOM, \$15,673; Germany, ^{1/} \$372

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

KNITTING MACHINES, OTHER THAN CIRCULAR AND FULL-FASHIONED-
HOSIERY MACHINES (TWO-BED FLAT KNITTING MACHINES
AND WARP MACHINES)

Stat. import classes (1939): 7501.7 and 7501.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production <u>1/</u>	Domestic exports	Imports for consumption from--			
			All countries	Germany <u>2/</u>	Switzer-land	UNITED KINGDOM
			Value (dollars)			
1937 ----	1,256,305	Not	51,140	24,219	23,532	1,368
1938 ----	n.a.	avail-	378,823	362,092	15,668	223
1939 ----	532,010	able	126,273	96,625	23,767	5,246
1943 ----	n.a.	(see text)	28,483	-	26,163	2,183

^{1/} Including loopers, but not including parts.
^{2/} Includes Austria beginning 1938.
Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 372			
Knitting machines (except circular and full-fashioned hosiery machines), and parts	40	1/27 1/2	UNITED KINGDOM
1/ Trade agreement with Switzerland, effective February 1936.			
Comment			

Two-bed flat knitting machines and warp machines are included in this digest. Warp machines differ from other knitting machines in that they form loops length-wise, or warp-wise, of the material, each needle operating simultaneously on a separate yarn. For example, in a 15-foot, single bed, machine with 28 needles to the inch, there are over 5,000 needles and yarn ends knitting at the same time. By a sidewise movement, which causes the yarns to pass alternately from one needle to another, the loops of the various warp yarns are interlocked to form the fabric. In other types of knitting machines one or relatively few yarns are used; they are passed from needle to needle so that only one needle operates on the yarn at one time, each needle forming a loop and interlocking it with the preceding one to form the fabric.

Flat knitting machines are the most versatile of knitting machines. They produce tubular or selvaged fabrics, fashioned or straight articles, and more intricate patterns and designs than can ordinarily be produced on other machines. Demand for the machines is influenced much more by fashion than the demand for full-fashioned-hosiery machines and circular machines. Flat machines are used principally to produce high-grade outerwear and underwear. Their chief disadvantage is low productive capacity which results in relatively high cost. There are two types of flat machines: the Lamb and the links-and-links. The principal difference between the two is that the links-and-links machine produces the purl stitch, which is similar to that produced by hand knitting. Because of this, the links-and-links, or purl, machines are popular for women's and infants' outerwear. Besides the standard type of Lamb machines, there is a variation known as the Burson machine, which automatically knits seamless, semi-fashioned hosiery. As the fashioning accomplished by these machines is limited, they are not classified as full-fashioned-hosiery machines, which are discussed in a separate report.

The principal producers and exporters of the two-bed flat machines are Germany and Switzerland. Germany leads in the production of links-and-links machines and

KNITTING MACHINES, OTHER THAN CIRCULAR AND FULL-FASHIONED-
HOSIERY MACHINERY (TWO-BED FLAT KNITTING MACHINES
AND WARP MACHINES)

Switzerland in Lamb machines. Two-bed flat knitting machines are not known to be produced in the United Kingdom or other foreign countries except Germany and Switzerland.

Output of two-bed flat machines in the United States is relatively unimportant, but in the decade before the last war domestic output increased substantially in response to the growing popularity of better-grade knitwear, particularly sweaters. The greatest expansion was in the production of links-and-links machines, which, according to data obtained by the United States Tariff Commission, in 1935 accounted for 98 percent of the total value of all two-bed machines produced in the United States. Before the expansion in the 1930's, the domestic knitting mills were almost entirely dependent upon Germany and Switzerland for both types of these machines. There are five producers in the United States, of whom three specialize in the links-and-links machines. Two of these three also produce the bulk of the two-bed flat machines. Domestic production of both types combined is considerably below

that of full-fashioned-hosiery machines or of circular machines, types which produce more staple articles. Until the middle 1930's most of the domestic exports of flat machines were of the Burson type. After that a few of the regular Lamb type and some links-and-links machines were exported. Statistics regarding exports are not available, but before the war they were probably smaller than imports.

As a rule domestic flat-bed machines are adapted to fast production of knitted goods of kinds for which there is a substantial demand. Swiss machines are generally designed for more decorative effects which necessitate more moderate speeds. Fashions and national income affect the demand for this type of goods; demand was not large before the war but is now increasing. The sudden large increase in imports in 1938 came from Germany, which did not receive the benefit of the reduction in duty by the Swiss agreement. The German machines probably were of the links-and-links and warp types, which had been gaining in favor. The United Kingdom has not been an important producer of the V-bed or links-and-links types, but a highly efficient warp machine has recently been developed in Great Britain and is being exhibited in the United States. It offers greatly increased speed, reduced operating labor, and other advantages over all other warp machines. If these advantages are realized in practice warp-knit fabric will be in a better position to compete with woven fabric and a substantial increase in warp knitting will probably follow.

Imports of complete machines and parts by sources are shown below for 1939.

Knitting machines and parts: U. S. imports for consumption,
by kind, by principal sources, 1939

Kind	Total value	Principal sources
Machines	\$119,803	Germany, 1/ \$92,902; Switzerland, \$22,030; UNITED KINGDOM, \$4,564
Parts	6,465	Germany, 1/ \$3,723; Switzerland, \$1,737; UNITED KINGDOM, \$682

1/ Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

BRAIDING, LACE BRAIDING, AND INSULATING MACHINES, AND SIMILAR
TEXTILE MACHINERY AND PARTS

Stat. import class (1939): 7502.0

United States production, exports, and imports, 1937-39 and 1943

Year	Pro- duction <u>1/</u>	Domestic exports	Imports for consumption from--				
			All countries	France	Germany <u>2/</u>	Switzer- land	UNITED KINGDOM
	Value (dollars)						
1937	n.a.	167,236	254	-	254	-	-
1938	n.a.	164,882	<u>3/</u> 35,013	5,189	6,281	-	-
1939	457,536	365,592	14,933	5,331	3,677	2,989	2,872
1943	-	<u>4/</u> 218,876	<u>5/</u> 443	-	-	-	235

1/ Not including parts.

2/ Includes Austria beginning 1938.

3/ Includes \$24,543 imported from the Netherlands.

4/ Includes \$94,814 exported under lend-lease.

5/ Canada was the second source.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u> <u>negotiating</u> <u>country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 372			
Braiding, lace braiding, and insulating machines, and all other similar textile ma- chinery, and parts -----	40	<u>1/20</u>	UNITED KINGDOM
<u>1/</u> Trade agreement with the United Kingdom, effective January 1939.			

Comment

There are three general types of braiding machines: The maypole type, the high-speed braider, and the Barmen lace braider. The fabric is formed on these machines by alternately passing a series of threads over and under each other in a mannae similar to that used in a Maypole dance. The Maypole type is used to produce sash cords, shoe laces, fire-hose covering, electric cable covering, and ornamental braids. The high-speed type is used chiefly for insulating electric wires and cables, while Barmen braiders produce a fabric similar to hand-made lace.

Domestic production consists of the Maypole type and the high-speed braiders. A large part of the output is exported. The United Kingdom is the principal market for the high-speed machines, while Canada and Latin American countries are probably the principal foreign outlet for the Maypole type. A few Barmen braiders have been made in the United States by machinery builders and by textile mills for their own use, but after the first World War the demand for these machines declined with the decline in the popularity of laces. Consequently, there are a large number of idle Barmen braiders in domestic textile mills.

Braiding machines are produced in several European countries, particularly in the United Kingdom, Germany, France, and Switzerland. Production in Germany probably exceeds that in any other foreign country.

Imports into the United States have been small for a number of years and probably have consisted principally of parts for Barmen lace braiders.

Stat. classes (1939): 7508.0, 7508.5, and 7508.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Germany ^{1/}	Switzerland	UNITED KINGDOM	CZECHO-SLOVAKIA
			Value (dollars)				
1937	Not	1,559,830	301,768	279,103	2,229	8,926	6,633
1938	avail-	1,084,944	65,056	39,078	4,898	4,160	13,641
1939	able	1,300,492	48,142	35,121	5,603	4,392	927
1943	(see text)	1,256,396	3,530	-	1,517	2,003	-

^{1/} Includes Austria beginning 1938.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>	<u>Proposed negotiating country</u>
	<u>Act of</u> <u>1945</u>	
	<u>1930</u> <u>rate</u>	
	Percent ad valorem	

Par. 372

Textile machinery, n.s.p.f. and parts:

Looms and parts -----	40	40	UNITED KINGDOM CZECHOSLOVAKIA
-----------------------	----	----	----------------------------------

Comment

Looms are used for weaving plain, fancy, or pile fabrics. Most are power operated, and some have devices which automatically replenish the weft. Domestic production amounted to over 9.6 million dollars in 1929, the last year for which official production data are available. In 1939 combined production of looms and several minor classes of textile machinery amounted to \$7,472,000. Automatic cotton looms rank first in volume of domestic output, next are silk and rayon looms, followed by woolen and worsted looms. Looms for weaving carpets and rugs represent a relatively small percentage of the total. The domestic machines are of high quality and constitute the bulk of those used in the United States. Exports, probably about 10 percent of total output, consist principally of cotton looms, with silk looms probably ranking second. Canada is the principal market.

The principal foreign producers before the war were the United Kingdom, Germany, and Switzerland, followed by Japan, France, Italy, and Czechoslovakia. The United Kingdom was the leading exporting country, followed by Germany and Switzerland, the latter being particularly important in the export of silk looms.

Imports supply only a relatively small number of the looms used in the United States. The principal prewar suppliers were Germany, Czechoslovakia, Switzerland, and the United Kingdom. Imports from Germany, the leading supplier, were principally plush looms and other types of cotton looms. Imports from Czechoslovakia were principally porcelain parts for silk looms, while those from Switzerland were silk looms. Imports from the United Kingdom were mostly cotton looms other than pile.

LOOMS AND PARTS-Continued

Imports by type are shown in the following table for 1939.

Looms and parts: United States imports for consumption,
by kind, with principal sources, 1939

Kind	Total value	Principal sources
Pile looms -----	\$2,609	: Germany $\frac{1}{2}$ \$2,609
Other looms -----	19,932	: Germany $\frac{1}{2}$ \$16,318; Switzerland,\$3,000; : UNITED KINGDOM, \$604.
Parts -----	25,601	: Germany $\frac{1}{4}$ \$16,194; UNITED KINGDOM, : \$3,788; Switzerland, \$2,603; France, : \$1,994

$\frac{1}{2}$ Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

EMBROIDERY MACHINES AND PARTS

Par. No. 372
FRANCE
UNITED KINGDOM

Stat. import classes (1939): 7495.0 and 7495.1

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Switzerland	Germany ^{1/}	FRANCE	UNITED KINGDOM
	Value (dollars)						
1937	Not	Not	42,978	2,073	20,089	17,771	-
1938	avail-	avail-	35,115	6,631	16,408	11,667	45
1939	able	able	26,340	11,754	10,655	3,236	695
1943	(see text)	(see text)	92,486	91,164	-	-	1,322

^{1/} Includes Austria beginning 1938.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating countries
	Act of 1930	1945 rate	
Par. 372	Percent ad valorem		
Embroidery machines and parts (except shuttles)	30	30	FRANCE, UNITED KINGDOM

Comment

There are three general types of embroidery machines: (1) the Swiss loom or hand embroidery machine, (2) the Schiffli machine, and (3) the Bonnaz or Cornely machines. Swiss looms are multi-needle, hand-operated machines, which average 6 feet in width. By passing small, double-pointed needles back and forth through the fabric in a manner similar to embroidering by hand, they produce designs which closely resemble hand embroidery. Schiffli machines are also multiple-needle machines, but, unlike the Swiss looms, they use shuttles in forming the stitch. Many of the Schiffli machines are 15 feet wide. The needles on these machines are not passed completely through the fabric as in a Swiss loom, but only part way through so that the needle threads can interlock with shuttle threads on the reverse side of the material to form the stitch. The designs are produced either by an automatic Jacquard attachment or by means of pantographs operated by hand. The latter method is slower but produces higher quality work. The Bonnaz machine resembles a sewing machine and is operated by hand or power. The design is usually formed by moving the fabric back and forth under the needle, the needle thread interlocking with a shuttle thread on the back of the fabric.

Swiss looms are used principally in the production of handkerchiefs. Schiffli machines also are used for embroidering handkerchiefs, for embroidering edgings and other materials used in the manufacture of wearing apparel, and for making burnt-out or Plauen lace. Bonnaz machines produce designs with heavy cords, tapes, beads, and other materials which cannot be used on either the Swiss loom or the Schiffli machine.

There is no separate embroidery-machine industry in the United States. However, a few of the more simple types of the Bonnaz machines are produced by one of the leading sewing-machine manufacturers. An occasional Swiss loom has been made, but there has been no production of Schiffli machines. This situation is not likely to change materially in view of the fact that the demand for these machines is variable, depending upon styles. Because of this, American producers have not been attracted to the field.

EMBROIDERY MACHINES AND PARTS-Continued

Germany leads the world in the production of Schiffli machines and Switzerland of Swiss looms. France is the principal producer of the Bonnaz machine. Besides the type of Bonnaz machine produced in France, there is a type in which the head of the machine, rather than the fabric, is moved to produce the embroidered design. This latter type is produced in the United Kingdom.

Most of the machines installed in the United States have come from the above sources. After World War I imports decreased because of the decline in the demand for embroideries, but rose again in the middle 1930's because of the popularity of eyelet dresses. In 1935 and 1936 imports averaged about \$50,000 annually.

Imports from principal sources are shown below for 1939.

Embroidery machines and parts: United States imports for consumption by kind, with principal sources, 1939

Kind	Total value	Principal sources
Embroidery machine -----	\$16,910	Germany ^{1/} \$6,616; Switzerland, \$7,058; France, \$5,236
Embroidery machine parts ---	9,430	Switzerland, \$4,696; Germany, ^{1/} \$4,039

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

LACE MACHINES AND PARTS (INCLUDING MACHINES FOR
MAKING LACE CURTAINS, NETS, AND NETTING)

Stat. import classes (1939): 7495.2-7495.5 and 7495.8-7495.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	France	
	Value (dollars)					
1937 ----	Negligible	Negligible	133,886	128,437	3,137	
1938 ----			132,671	130,945	1,726	
1939 ----			127,208	126,932	134	
1943 ----			17,526	17,516	-	

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
			<u>negotiating</u>
	<u>Act of</u>	<u>1945</u>	<u>country</u>
	<u>1930</u>	<u>rate</u>	
	<u>Percent ad valorem</u>		

Par. 372

Lace-making machines, and machines for making lace curtains, nets, and nettings:

Levers or go-through lace machines and parts -----	30	30	UNITED KINGDOM do.
Other, and parts -----	30	1/ 15	

1/ Trade agreement with the United Kingdom, effective January 1939.

Comment

There are three general types of lace machines: (1) Levers lace machines, (2) Nottingham lace-curtain machines, and (3) bobbinet machines. These machines are large and very expensive, and because of their size and weight require specially constructed mills for their operation. (The Burman machine, not considered as a true lace-making machine, is covered in the digest on braiding machinery.)

The Nottingham lace-curtain machines are the largest, ranging in width up to 420 inches and in weight up to 16 tons; some, with overhead Jacquards, approximate 20 feet in height. They are used chiefly in the production of window curtains and curtain nets, with a smaller proportion used for lace bedspreads, tablecloths, and other household articles. During the war they were used for producing insect and camouflage nettings for military purposes.

Levers lace machines, although not so large as the curtain machines, are made up to 224 inches in width and 12 tons in weight. They use finer yarns than the lace-curtain machines and produce a greater variety of products, including laces as narrow as 1/2 inch, flouncings up to 54 inches, "all-over" laces that are produced at the full width of the machine, veils and veilings, and miscellaneous articles. In both the Levers and Nottingham lace-curtain machines the design is produced by means of a Jacquard attachment.

LACE MACHINES AND PARTS (INCLUDING MACHINES FOR
MAKING LACE CURTAINS, NETS, AND NETTING)--Continued

The bobbinet machines produce unfigured fabric, usually of hexagonal mesh. Coarse and medium grades are used principally for mosquito netting and for foundation fabric for embroidered lace curtains. Fine grades are used for bridal veils, foundation fabric for embroidered laces, and trimming for wearing apparel. Besides the ordinary hexagonal mesh, some bobbinet is made with square or with fancy mesh. The latter is known as Grecian net. Point d'esprite, or spotted net, is also made on the bobbinet machines.

Lace machines are among the most complex and the most costly textile machines produced. They are made in the United Kingdom, Germany, and France, the United Kingdom leading in both production and exports. There is no production in the United States, largely because of the limited demand and because of the excellence and long established prestige of the foreign equipment. Practically all of the lace machines installed in the United States are from the United Kingdom. A few are from France and Germany.

Imports by types and sources are shown below for 1939.

Lace-making machines and parts: United States imports for
consumption, by kind, with principal sources, 1939

Kind	Total value	Principal sources
Machines for curtains, nets and nettings	\$56,286	UNITED KINGDOM, \$56,286
Parts of -----	9,326	UNITED KINGDOM, 9,297
Levers or go-thru machines -----	20,585	UNITED KINGDOM, 20,585
Parts of -----	19,173	UNITED KINGDOM, 19,173
Other machines -----	13,465	UNITED KINGDOM, 13,357
Parts of -----	8,373	UNITED KINGDOM, 8,234

Source: Official Statistics of the U.S. Department of Commerce.

TEXTILE BLEACHING, PRINTING, DYEING AND OTHER
FINISHING MACHINERY AND PARTS

Stat. import class (1939): 7515.7

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from--			
			All countries	Germany ^{2/}	UNITED KINGDOM	
	Value (dollars)					
1937 ---	10,206,641	239,209	n.a.	n.a.	n.a.	
1938 ---	n.a.	118,813	n. a.	n.a.	n.a.	
1939 ---	7,584,841	167,872	14,164	6,202	5,583	
1943 ---	n.a.	213,192	2,573	200	1,158	

^{1/} Not including parts.^{2/} Includes Austria beginning 1938.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		

Par. 372

Textile machinery, n.s.p.f., and parts:

Textile bleaching, printing, dyeing

and finishing machinery and parts -- 40

40

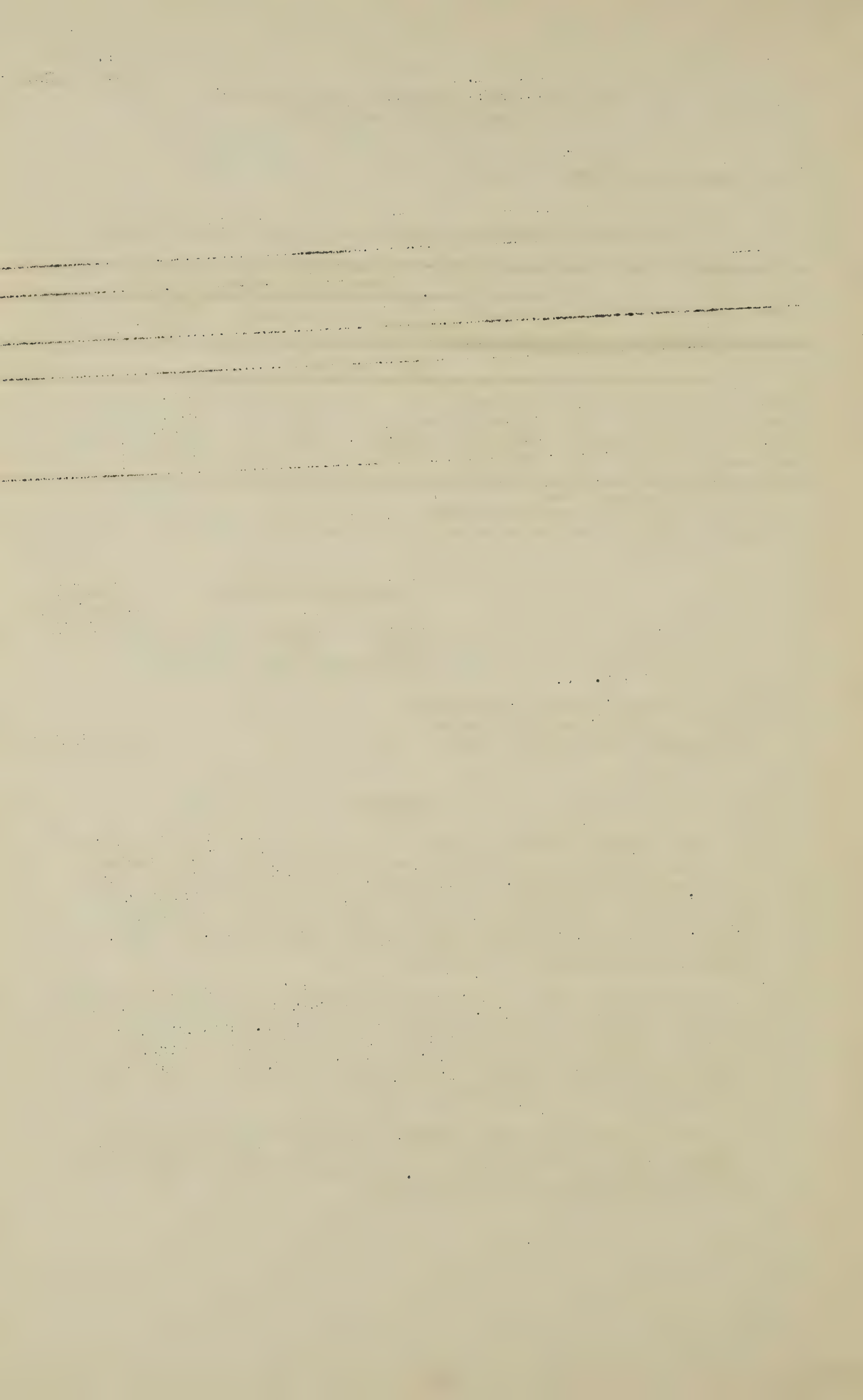
UNITED KINGDOM

Comment

After textile fabric is made it is processed in various ways before it is ready for the market. These processes are known as "finishing" and vary from fairly simple operations to those which completely change the character of the fabric. Because of the diversity of fabrics and finishes, these operations require a very wide variety of machines, including those for singeing, shearing, bleaching, brushing, moireing, printing, and dyeing, to mention only a few.

Production of this machinery in the United States generally ranges from 7 to 10 million dollars annually. Some machines are standard types and are produced in quantity; others are made to order. Production in Germany normally greatly exceeds that in any other foreign country. The United Kingdom is the second largest foreign producer, but its output is probably below that of the United States.

Before the war the small amount of imports came principally from Germany, German producers being able to sell here partly because of price and partly because of quality. Some finishing machines have also come from the United Kingdom and Switzerland.



CORDAGE MACHINES AND PARTS (EXCEPT THOSE HAVING
AN ESSENTIAL ELECTRICAL ELEMENT)

Stat. import class (1939): 7515.8

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM		
Value (dollars)						
1937 ---	Not avail- able (see text)	Not avail- able	n.a.	n.a.		
1938 ---			n.a.	n.a.		
1939 ---			114,256	114,178		
1943 ---			41,281	41,231		

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
	<u>Percent ad valorem</u>		

Par. 372:

Machines, n.s.p.f., and parts:

Cordage machines and parts -----	27½	1/ 20	UNITED KINGDOM
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1/ Trade agreement with the United Kingdom effective January 1939.

Comment

Cordage is made from both hard and soft fibers. For processes up to the formation of yarns, different types of machines are used for the hard and soft fibers, but there is little difference in the type of machines used for transforming the two types of yarn into rope, cable, etc. Included in this report are machines used in the manufacture of hard-fiber yarns and machines for transforming hard- and soft-fiber yarns into rope, cable, etc. Excluded from this report are machines used in the manufacture of soft-fiber yarns, which are discussed in a separate report, and cordage machines with essential electrical features, classified in paragraph 353.

Machinery used for making hard fiber into yarn includes the breaker, several types of drawing machines which vary according to the stage of drawing, and the spinner, which puts a twist into the sliver from the last drawing frame. After spinning, the yarn is either balled into 5-pound packages for binder twine or several yarns are twisted together to form strand. After the strand is formed, several are twisted together to form rope. Hawser is formed by twisting together several ropes, and cables by twisting together several hawsers. The machines used for twisting strand into rope and rope into hawser are much larger and heavier than the usual type of textile twisting machinery.

England is the largest producer of hard- and soft-fiber cordage machinery and its exports are substantial. Before the war Germany was probably the second largest foreign producer.

Production in the United States is neither as large nor as varied as that in the United Kingdom. There is only one builder of a full line of hard-fiber machinery, but rope and cordage manufacturers have built a substantial part of their own requirements. The domestic production of hard-fiber machinery is large enough to supply the bulk of the home market. Domestic hard-fiber machines are also exported to a number of markets throughout the world, where they compete favorably with the British. There is no United States production of soft-fiber machinery--either of the types under discussion here or the types discussed in a separate report on jute machinery.

CORDAGE MACHINES AND PARTS (EXCEPT THOSE HAVING
AN ESSENTIAL ELECTRICAL ELEMENT)--Continued

Imports of cordage machines were not reported separately before 1939, when the duty on them was reduced under the trade agreement with the United Kingdom. An analysis of imports in 1936, one of the depression years, disclosed that imports in that year were about half as much as in 1939 and that they were exclusively from the United Kingdom. There were no imports during the 3-year period 1940 to 1942. In the past, part of the importation has been accounted for by the fact that substantial improvements in cordage machinery have been made from time to time by British manufacturers.

MISCELLANEOUS TEXTILE MACHINERY AND PARTS

Par. No. 372
UNITED KINGDOM

Stat. import class (1939): 7515.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production <u>1/</u>	Domestic exports	Imports for consumption from---			
			All countries	Germany <u>2/</u>	UNITED KINGDOM	France
	Value (dollars)					
1937 ----	5,057,394	2,597,451	<u>3/</u> 384,716	162,175	140,523	42,092
1938 ----	n.a.	1,785,705	148,131	72,016	40,251	29,434
1939 ----	3,691,021	1,810,875	76,114	33,507	18,619	15,933
1943 ----	n.a.	<u>4/</u> 1,365,486	11,514	-	10,720	-

^{1/} Not including parts. Combined production of parts for all textile machinery amounted to \$33,767,000 in 1939.

^{2/} Includes Austria beginning 1938.

^{3/} Includes \$23,570 imported from Czechoslovakia.

^{4/} Includes machinery valued at \$114,831 exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed negotiating country

Act of 1930 1945
rate
Percent ad valorem

Par. 372

Textile machinery, n.s.p.f., and parts.

40 ^{1/} 25

UNITED KINGDOM

^{1/} Trade agreement with the United Kingdom, effective January 1939.Comment

This group includes types of textile machinery, which cannot be classified with those covered by other digests. Included are such miscellaneous equipment as cloth- and yarn-measuring and testing machinery, and cloth winders and folders. Although separate production statistics are not available for the various types of machinery included here, it is known that output for the different kinds is small in relation to that for most other types of textile machinery, but production for the group as a whole is substantial. As in the case of production, separate export data for the individual types of machinery are not available. Imports are probably somewhat smaller than the statistics indicate, as certain machines and parts may be erroneously classified here.

SEWING MACHINES VALUED OVER \$10 AND PARTS; AND SHUTTLES FOR SEWING AND EMBROIDERY MACHINES
(Sewing machines valued not over \$10 each (par. 372) are treated in separate digest.)
Stat. import classes (1939): 7550.3-7550.6 and 7550.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports ^{1/}	Imports for consumption from--				
			All countries	UNITED KINGDOM	Germany ^{2/}	France	Japan
			Quantity (number) ^{3/}				
1937 -	Not avail- able	206,771	^{4/} 63,779	2,542	57,236	64	2,239
1938 -		121,752	^{4/} 65,229	1,156	62,076	123	1,561
1939 -		152,804	1,976	1,250	519	88	1
1943 -		^{5/} 25,634	925	901	13	-	-
			Value (dollars)				
1937 -	31,831,578	11,053,432	264,240	142,144	81,461	5,708	20,136
1938 -	n.a.	6,991,148	163,084	63,401	79,122	8,071	6,807
1939 -	27,846,346	9,064,800	179,953	107,452	49,313	11,202	8,317
1943 -	n.a.	^{5/} 3,628,972	113,476	101,828	252	-	-

^{1/} May include data for sewing machines, valued at not over \$10.

^{2/} Includes Austria beginning 1938. ^{3/} Excludes parts.

^{4/} Includes data for a large number valued at less than \$10 each, mainly from Germany; export data for such machines were available beginning in 1939.

^{5/} Includes 3,108 machines, valued at \$574,027, exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 372			
Sewing machines:			
Valued over \$10 but not over \$75 each, and parts	15	^{1/} 15	UNITED KINGDOM
Valued over \$75 each, and parts	30	^{2/} 15	do.
Shuttles for sewing and embroidery machines	30	30	do.
^{1/} Duty bound under United Kingdom trade agreement, effective January 1939.			
^{2/} United Kingdom trade agreement, effective January 1939.			

Comment

Household sewing machines are mostly of one general pattern; the high-speed, accurate machines for factory use are made in thousands of models. In the United States the production value of household machines is considerably greater than that of factory machines. The Singer Company is the leading domestic producer of both types. It has factories also in Canada, Scotland, Germany, France, and Italy. Its household-machine sales are much the larger part of its domestic business, although its factory-machine sales probably exceed those of all of its competitors in the United States combined. There are several other well-established domestic producers of household machines and several of factory machines. In the United Kingdom Singer is by far the leading producer.

SEWING MACHINES VALUED OVER \$10 AND PARTS; AND SHUTTLES FOR SEWING AND
EMBROIDERY MACHINES--Continued

The Singer Company, in a position to supply its export trade from wherever it can do so to the best advantage, exports to Latin America and the Philippines from the United States, and to Europe from its factory in Scotland. From Canada it exports some machines to South America; from Germany it exported little. Singer also exports from Scotland to the United States some types of factory machines, the demand for which is too small to warrant manufacture in the United States. Some special types of industrial machines were also imported into the United States from Germany, and some parts from Japan, apparently for replacements in American machines. Other parts were imported from Japan which, as they could be used for other purposes, were not reported as sewing-machine parts.

British production is smaller than that of the United States, but exports of the two countries are not far apart in volume. In 1935, when British production was last reported, over half the output was exported. Great Britain is the largest foreign buyer of United States sewing machines, purchases in 1937 amounting to 2½ million dollars in value; they consisted mainly of factory machines and parts. The Singer Company, with its very large factory in Scotland, appears to be in a position to adjust its business to either high or low rates of duty.

Sewing machines valued over \$10 each, and parts; shuttles for sewing
and embroidery machines: United States imports for consump-
tion, by kind, with principal sources, 1939

Kind	Total value	Principal sources
Valued \$10 to \$75 each -----	\$73,268	UNITED KINGDOM, \$47,990; Germany, ^{1/} \$20,568; Canada, \$2,397
Parts 2/ -----	26,224	UNITED KINGDOM, \$14,003; Japan, \$8,273; Germany, ^{1/} \$1,759
Valued over \$75 each -----	61,688	UNITED KINGDOM, \$40,586; Germany, ^{1/} \$13,153; France, \$7,619
Parts -----	17,315	Germany, ^{1/} \$12,464; UNITED KINGDOM, \$4,784
Shuttles -----	1,458	Germany, ^{1/} \$1,369; UNITED KINGDOM, \$89

^{1/} Includes Austria.

^{2/} Includes parts of sewing machines, valued at \$10 or less each.

Source: Official statistics of the U. S. Department of Commerce.

CREAM SEPARATORS VALUED OVER \$50 EACH, AND PARTS

Stat. import classes (1939): 7720.2, 7720.3, and 7720.4

United States production, exports, and imports, 1937-39 and 1943

Year	Production <u>1/</u>	Domestic exports <u>2/</u>	Imports for consumption from--				
			All countries	Germany <u>3/</u>	Finland	Switzerland	UNITED KINGDOM
Quantity (number)							
1937 --	38,884	1,845	Not avail- able				
1938 --	25,974	1,479					
1939 --	17,572	388					
1943 --	14,228	<u>4/</u> 4,002					
Value (dollars)							
1937 --	2,427,055	79,222	<u>5/</u> 201,238	84,578	13,177	3,237	NONE
1938 --	1,881,969	72,575	104,951	44,187	13,020	3,116	
1939 --	1,207,444	31,857	93,018	67,856	7,778	6,581	
1943 --	1,016,697	<u>4/</u> 336,986	<u>6/</u> 1,213	-	-	-	

^{1/} Quantity and value of cream separators having a capacity of over 500 pounds per hour.^{2/} Excludes parts. Data for 1937 and 1938 cover exports of all cream separators, regardless of value. Exports for later years are classified as "Cream separators, valued at \$50 or over."^{3/} Includes Austria beginning 1938.^{4/} Includes 2,478 cream separators valued at \$228,262 exported under lend-lease.^{5/} Includes \$83,836 imported from Sweden.^{6/} Includes imports valued at \$880 free as an act of international courtesy from Union of South Africa.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 372			
Cream separators:			
Valued over \$50, not over \$100 each, and parts thereof -----	25	^{1/} 12½	UNITED KINGDOM
Valued over \$100 each, and parts thereof -----	25	25	do.

^{1/} Trade agreement with Finland, effective November 1936. Reduction did not apply to imports from Germany.

Note.- Cream separators valued at not more than \$50 each may be imported free of duty under the provisions of paragraph 1604.

CREAM SEPARATORS VALUED OVER \$50 EACH, AND PARTS-Continued

Comment

Cream separators utilize centrifugal force, generated by high speeds of revolution to separate cream from milk, there being a slight difference in the specific gravity of the two liquids.

From the tariff standpoint, cream separators fall into three groups:

- (1) Those valued not over \$50 each, duty-free.
- (2) Those valued \$50 to \$100 each (as to duty, see above).
- (3) Those valued over \$100 each, dutiable at 25 percent ad valorem.

This digest is not concerned with duty-free separators. These small separators are used chiefly on farms (other than large dairy farms), and like other farm machinery are free of duty. The prewar imports, in value, were much larger than those of dutiable separators, and probably also bore a much higher ratio to domestic production than did those of dutiable separators. Prewar imports were mostly from Sweden and Finland.

Somewhat more than 20 concerns are engaged in the manufacture in the United States of separators of kinds subject to duty. Substantially all of these are located north of the Ohio and Potomac and east of the Mississippi. The list includes one large manufacturer of a diversified line of centrifugals which is an affiliate of a well-known Swedish concern. Most of the concerns make small separators as well as the larger ones.

Separators of a class having a foreign value of \$50 to \$100 each are unimportant both in the import trade and in domestic production. For this reason, the reduction of the duty from 25 to 12½ percent ad valorem by the agreement with Finland, effective 1936, was an unimportant measure. It was rendered practically insignificant by the fact that the concession was not extended to Germany, which had been, and continued to be, the principal source of imports of these separators as well as of the imports of the higher-priced separators.

During the three years preceding the war, imports of separators having a foreign value of \$100 or more each had an average annual foreign value of about \$135,000, corresponding to a landed value of perhaps \$175,000. This was equal to approximately 10 percent of the value of the domestic production of separators of this class. The bulk of the prewar imports came from Germany, with smaller quantities from Finland, Switzerland, and Denmark.

CREAM SEPARATORS VALUED OVER \$50 EACH, AND PARTS-Continued

Cream separators valued over \$50 each, and parts: United States
imports for consumption, by kind, with principal sources, 1939

Kind	: Total	:	Principal sources
	: value	:	
	:	:	
Valued over \$50, not over :	:	:	
\$100 each -----:	\$296	:	Germany, \$296. <u>1/</u> <u>2/</u>
Parts -----:	3,242	:	Sweden, \$2,948; Germany, \$138. <u>1/</u> <u>2/</u>
Valued over \$100 each ----:	74,317	:	Germany <u>2/</u> \$59,503; Finland, \$6,041;
	:	:	Denmark, \$2,478.
Parts -----:	15,163	:	Germany <u>2/</u> \$7,919; Denmark, \$3,305;
	:	:	Finland, \$1,706.

1/ Tariff rate for Germany 25 percent ad valorem. 2/ Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

CENTRIFUGAL MACHINES OTHER THAN OFF-LINE SEPARATORS

Stat. import class (1939): 7720.9

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from—				
			All countries	Sweden	Germany ^{1/}	UNITED KINGDOM	Denmark
Value (dollars)							
1937—	Estimated	Not avail- able	130,007	17,321	70,305	10,834	11,225
1938—	at several		89,451	10,322	51,615	6,688	4,480
1939—	million		66,069	30,162	29,128	4,135	2,078
1943—	dollars annually		2/ 367	—	—	23	—

^{1/} Includes Austria beginning 1938. ^{2/} Includes machines valued at \$344 imported from Canada.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		

Par. 372

Centrifugal machines for the separation
of liquids or liquids and solids, n.s.p.f.
(except cream separators)

25

25

UNITED KINGDOM

Comment

Centrifugal machines, known also as centrifuges and separators, depend for their operation upon the centrifugal force generated by rapid rotation and upon the differences in specific gravity of separable solids and liquids.

The centrifugal machines under consideration are used for drying clothes; for clarifying wines, yeasts, oils and other liquids; in sugar refining; and in innumerable other industrial processes. They range in size from very large industrial installations to small laboratory units. Thousands of types are manufactured.

Domestic output, although not separately reported, is known to amount in value to several millions of dollars annually. By comparison, imports are small. Important among the imported types, mainly from Germany, are specialties for laboratory work, and for special industrial use such as yeast separation and the clarification of wine.

The United Kingdom supplied 6 to 8 percent of United States imports in the last few years before the war.

Since imports are mainly in the nature of specialties a reduction of the duty would probably have relatively little effect on the domestic industry, though it might cause an appreciable increase in imports.

—

1892

CALCULATING AND ACCOUNTING MACHINES AND CASH REGISTERS
(See digest on calculating machines with electrical elements, par. 353.)

Stat. import classes (1939): 7786.4-5; 7786.7-9.

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports ^{1/}	Imports for consumption from---				
			All countries	Sweden	UNITED KINGDOM	Germany ^{2/}	France
			Value (dollars)				
1937	85,193,312	19,559,633	38,575	7,224	7,223	20,891	2,100
1938	n.a.	15,508,911	23,021	2,493	13,915	3,432	-
1939	64,550,989	14,558,594	15,843	7,630	6,233	890	528
1943	n.a.	37,869,317	31,471	-	27,926	-	-

^{1/} Includes calculating machines with electrical elements, dutiable under paragraph 353.

^{2/} Includes Austria beginning 1938.

^{3/} Includes exports under lend-lease valued at \$4,262,129.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
	<u>Percent ad valorem</u>		
Par. 372:			
Combined adding and typewriting machines and parts.	30	30	UNITED KINGDOM
Calculating and accounting machines:			
Calculating machines for multiplying and dividing, and parts.	27 $\frac{1}{2}$	1/25	do.
Others and parts -----	27 $\frac{1}{2}$	27 $\frac{1}{2}$	do.
Cash registers and parts -----	25	25	do.
1/ Trade agreement with Sweden, effective August 1935.			

^{1/} Trade agreement with Sweden, effective August 1935.

Comment

Calculating machines for multiplying and dividing are dutiable under paragraph 372 if they do not contain electrical elements which are essential to their operation. If they do contain such elements they are dutiable under paragraph 353 at the same rate provided in paragraph 372. Since the two types are not differentiated in statistics of production and exports the data in the above table cover production and exports of both the electrical and the non-electrical machines. Combined imports of all calculating machines, both electrical and non-electrical, are very small in comparison with production and exports, and the division of imports between the two paragraphs is not of importance in appraising the competitive situation. In the United States, where the volume of business is large and salaries of office and commercial employees are high, the demand for office labor-saving equipment is greatest. The United States is by far the largest producer in the world. The machines are made by the two large typewriter manufacturers, one outstanding producer of cash registers, and by a number of specializing firms. Other important producing countries are Great Britain, Germany, Sweden, and Switzerland. One of the American typewriter makers before the war had a substantial interest in one of the leading German calculating machine companies.

The United States normally exports from 500 to 1,000 times the value of its imports, and the United Kingdom is its largest market. When last reported (1935), production in Great Britain was valued at about 3 million dollars annually. In that

CALCULATING AND ACCOUNTING MACHINES AND CASH REGISTERS - Continued

year United States exports to the United Kingdom amounted to about 2 million dollars; in 1937 they reached nearly 4 million.

Adding, calculating, accounting machines, and cash registers, and parts: United States imports for consumption, by kind, with principal sources, 1939

Kind	Total value	Principal sources
Combined adding and typewriting machines and parts.	\$27	UNITED KINGDOM, \$27.
Calculating and accounting machines:		
For multiplying and dividing --	3,207	Sweden, \$2,296; France, \$512; Italy, \$208; UNITED KINGDOM, \$118.
Others -----	8,953	Sweden, \$4,616; UNITED KINGDOM, \$4,021.
Parts -----	2,577	UNITED KINGDOM, \$1,879; Sweden, \$503.
Cash registers and parts -----	1,079	Germany, ^{1/} \$613; Sweden, \$215; UNITED KINGDOM, \$188.

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

LAWN MOWERS AND PARTS

Stat. import class (1939): 780.10

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Canada	Germany ^{1/}	UNITED KINGDOM	Switzerland
	Quantity (number)						
1937	1,248,898	53,322	8	-	-	7	1
1938	1,128,375	44,539	2	-	1	1	-
1939	1,250,958	40,554	n.a.	-	-	-	-
1943	32,118	485	n.a.	-	-	-	-
	Value (dollars)						
1937	8,427,434	370,677	663	-	-	573	90
1938	9,103,137	383,436	93	-	10	83	-
1939	9,691,278	359,917	22	16	6	-	-
1943	2,189,081	31,314	3	3	-	-	-

^{1/} Includes Austria beginning 1938.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 372 Lawn mowers and parts -----	30	30	UNITED KINGDOM

Comment

United States imports of lawn mowers have been practically nil since 1937, in which year they were less than one-tenth of 1 percent of production. Mowers from the United Kingdom at one time were preferred by certain gardeners and golf greens' keepers, but in general the machines are considered too bulky and cumbersome for ordinary use. The United Kingdom was the principal source of the very few lawn mowers imported in the past decade.

PRINTING MACHINERY (EXCEPT FOR TEXTILE) AND PARTS

Stat. import classes (1939): 780.20-.22-.25-.26

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from--				
			All countries	Germany ^{2/}	UNITED KINGDOM	France	Canada
	Value (1,000 dollars)						
1937	47,737	9,197	550	421	84	23	19
1938	n.a.	7,170	360	310	35	8	4
1939	32,630	6,873	226	174	36	10	4
1943	n.a.	^{3/} 2,890	2	-	-	-	2

^{1/} Includes photoengraving machinery.^{2/} Includes Austria beginning 1938.^{3/} Includes printing machinery valued at 192 thousand dollars exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u> <u>negotiating</u> <u>country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 372			
Printing machinery, except for textiles:			
Printing presses and parts -----	25	25	UNITED KINGDOM
Other, and parts -----	25	25	do.
	</		

Par. 372

Printing machinery comprises a variety of equipment, the most important in production and foreign trade being printing presses and typesetting machines. The latter are duty-free and are not considered herein (imports of typesetting machines in 1939 were valued at \$15,000).

Printing presses are of three general types—rotary, flatbed, and platen. In the rotary press (also called the web press) the type is in the form of cylinders. The paper, with rare exceptions is in roll form and runs continuously through the press, passing under the cylindrical printing face. Newspapers and magazines are usually printed on machines of this type which are large and run at high speed.

In the flatbed press the type is made up as a flat plate. Single sheets of paper are then gently pressed against the plate for their imprinting, the machine having a simple reciprocating motion. Machines of this type are generally small and are used for certain fine printing work, for special engraved printing, and for printing small size newspapers whose circulation is likewise small.

The platen press also has a flat printing face, but employs a jaw-type motion. The machines are small in size, with printing faces usually less than 2 feet square and they use either hand, foot, electrical, or mechanical drive. They are generally used in small job printing shops, or by amateurs.

PRINTING MACHINERY (EXCEPT FOR TEXTILE) AND PARTS-Continued

The domestic printing-machinery industry embraces establishments primarily engaged in the manufacture of machinery and apparatus used by the printing, photo-engraving, and bookbinding trades, including type and engraving plates and stones. In 1937 there were 231 companies and 9,376 wage earners in the industry. The number of manufacturers producing roll-fed newspaper presses is very small, probably not more than five or six. The remaining manufacturers produce all other types and sizes of machines.

Imports consist principally of presses for printing in colors, platen presses for operating at unusually high speeds, presses using special inks, and special machines for printing upon metal, enamel, and glass. Replacement parts make up a substantial portion of total imports, as many foreign presses are in service. The foreign value of imports in 1937-39 averaged about 1 percent of domestic production.

Exports consist of all types of machines, ranging in price from \$100 to over \$50,000 - the higher price being for the superior-type rotary newspaper machines. Exports have reached as high as 21 percent of domestic production. Germany was formerly a leading exporter, but will probably be substantially out of the market in the next few years. The United Kingdom is at present hardly able to fill domestic requirements.

Printing machinery except for textiles: United States imports for consumption, by kind, with principal sources, 1939

Kind	Total value	Principal sources
Printing presses -----	\$187,999	Germany, ^{1/} \$150,782; UNITED KINGDOM, \$27,271,
Parts of -----	20,317	Germany, ^{1/} \$10,759; UNITED KINGDOM, \$4,402;
		France, \$2,901
Other -----	12,228	Germany, ^{1/} \$8,533; UNITED KINGDOM, \$3,414
Parts of -----	5,191	Germany, ^{1/} \$3,640; UNITED KINGDOM, \$864;
		France, \$450

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

The effects of a maximum reduction in the duty would depend largely on whether the benefit of the reduced rate was extended to Germany. In the immediate postwar period the German industry may not be in position to export extensively, but in the later postwar period imports from Germany and other countries at a 12½ percent rate might supply an appreciably larger proportion of the consumption than they supplied before the war. Imports, however, would probably still be confined to specialties and be much smaller than exports.

PAPER-BOX MACHINERY AND BOOKBINDING MACHINERY AND PARTS

Stat. import classes (1939): 780.30, 780.32

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports ^{1/}	Imports for consumption from--				
			All countries	Germany ^{2/}	Canada	UNITED KINGDOM	Norway
			Value (dollars)				
1937 -	3/10,094,128	548,610	4/ 113,196	38,529	1,165	231	73,039
1938 -	n.a.	498,774	16,857	2,861	3,770	9,710	402
1939 -	7,357,732	367,515	14,769	9,880	2,486	2,066	-
1943 -	n.a.	281,035	-	-	-	-	-

- 1/ Exports of bookbinding machinery only; exports of paper-box machinery are not available.

2/ Includes Austria beginning 1938.

3/ Includes an estimated value of \$800,000 ^{for} machines for making paperboard containers other than "boxes".

4/ Imports in 1937 were much larger than in prewar years.
- Source: Official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
	<u>Percent ad valorem</u>		
Par. 372			
*** bookbinding *** and paper-			
box machinery, and parts			
thereof -----	25	25	UNITED KINGDOM

Comment

Paper-box machines cut the paper stock to the proper length, then crease, score, and print thereon the descriptive matter. Such machines combine the feature of both printing presses and box-making machines. Other machines that fabricate complete boxes including folding and sealing the ends, without any printing, or which perform any of these operations separately, are strictly box-making machines. Folding machines which score, cut, and fold filing folders are in the nature of paper-box machinery because of the character of the materials handled.

Several varieties of machines are used in the bookbinding industry to assemble the pages in bound form and to prepare and attach the cases or covers. They comprise folding, pasting, gathering, stitching, pressing, trimming, rounding, and backing machines for grouping the pages, and casing and blocking machines, the last of which place impressions in color or gold on the cover. The machines usually are not large but are ingenious in design and rapid in action.

Box-making machines that also print the paper stock are usually made by the manufacturers of printing presses; the others are produced by other equipment manufacturers. Bookbinding machines are produced by both the manufacturers of printing presses and by manufacturers specializing in this line of equipment. Excluding the printing-machinery manufacturers, there are about 40 companies that produce bookbinding and paper-box-making equipment. Their plants are located largely in the Eastern and Central States.

PAPER-BOX MACHINERY AND BOOKBINDING MACHINERY AND PARTS-Continued

Prewar imports (except in 1937) were very small and consist mainly of machines that are not made in the United States because of the small demand. Exports have always been large compared to imports; in 1939 these amounted to about 5 percent of United States production. Demand in the United States is steady and fairly heavy.

Paper box, bookbinding machinery, and parts: United States imports for consumption, by kind, with principal sources, 1939

Kind	: Total	:	Principal sources
	: value	:	
Paper box machinery and parts -----	: \$6,819	:	Germany, ^{1/} \$2,230; UNITED KINGDOM, \$1,849; Canada, \$2,443.
Bookbinding machinery and parts -----	: 7,950	:	Germany ^{1/} \$7,650; UNITED KINGDOM, \$217.
	:	:	

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

TOBACCO MACHINERY AND PARTS

Stat. import classes (1939): 780.33 and 780.34

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports ^{1/}	Imports for consumption from--				
			All countries	UNITED KINGDOM	Sweden	Canada	Germany ^{2/}
	Value (dollars)						
1937 -	3,679,150	717,029	1,227,253	1,170,759	53,383	322	2,728
1938 -	n.a.	636,778	434,889	360,962	67,431	335	6,149
1939 -	3,337,345	488,349	287,580	220,614	62,465	2,766	1,735
1943 -	n.a.	274,974	4,517	2,862	811	844	-

^{1/} Includes cigarette- and cigar-making and other tobacco machinery.^{2/} Includes Austria beginning 1938.

Source: Official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed negotiating country

Act of 1930 1945
rate
Percent ad valorem

Par. 372

Machines, finished or unfinished, not specially provided for, and parts thereof, not specially provided for:

Machinery for manufacturing tobacco products:

Tobacco cutting and industrial cigarette making machines, and parts -----

27 $\frac{1}{2}$ ^{1/} 22 $\frac{1}{2}$

UNITED KINGDOM

Other, and parts ----- 27 $\frac{1}{2}$ 27 $\frac{1}{2}$

do.

^{1/} Trade agreement with the United Kingdom, effective January 1939.Comment

Tobacco-cutting machines for cigarette manufacture assemble the prepared leaf tobacco, compress it into a mass, and shave the face into fine strips suitable for cigarette filler. Tobacco cutters of various types are also used for preparing other forms of cut tobacco for smoking, chewing, or for use as snuff.

Cigarette-making machines produce the finished cigarette from the prepared and shredded tobacco. The machine discharges the shredded tobacco onto a continuous strip of cigarette paper, fold the strip around the core of tobacco, glues the edge of the strip, cuts the cylinder thus formed into cigarettes of the desired length, and usually deposits them in large trays for removal from the machine.

There is only one domestic producer of complete cigarette-making machines which operate at the high speed required by the leading cigarette manufacturers. Tobacco-cutting machines are made by several domestic producers.

Export data cover both cigar- and cigarette-making as well as other tobacco machinery. Exports have been to as many as 60 different countries in a single year, the principal markets being China, Canada, United Kingdom, France, and Mexico.

TOBACCO MACHINERY AND PARTS--Continued

Before the recent war, imports from the United Kingdom, mostly cigarette machines, were fairly large. Although litigation between United States and United Kingdom manufacturers over patent infringement has now been settled future imports may depend upon the patent situation quite as much as upon the rate of duty.

Tobacco machinery and parts: United States imports for consumption, by kind, with principal sources, 1939

Kind	Total value	Principal sources
Tobacco-cutting and cigarette-making machinery and parts -----	\$191,274	UNITED KINGDOM, \$189,064; Germany, ^{1/} \$1,735
Other tobacco machinery and parts -----	96,306	Sweden, \$62,465; UNITED KINGDOM, \$31,550; Canada, \$2,291

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

WRAPPING AND PACKAGING MACHINERY AND PARTS

Stat. import classes (1939): 780.41-43

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	Germany <u>1/</u>	UNITED KINGDOM	Switzerland
Value (dollars)						
1937 --	<u>2/</u> 7,720,856	Not available	232,241	18,297	185,286	21,983
1938 --	n.a.		468,524	279,504	153,737	19,148
1939 --	8,563,527		364,170	240,147	109,738	12,335
1943 --	n.a.		648	-	291	-

1/ Includes Austria beginning 1938.

2/ Does not include combination slicing and wrapping machines, production data for which are not separately recorded.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
			<u>negotiating</u>
	<u>Act of</u>	<u>1945</u>	<u>country</u>
	<u>1930</u>	<u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 372:			
Wrapping and packaging machinery and parts:			
Machines for packaging pipe tobacco and machines for wrapping cigarette packages, and parts -----	27½	1/ 17½	UNITED KINGDOM
Machines for wrapping candy and combination candy-cutting and wrapping machines, and parts -----	27½	1/ 17½	do
Other -----	27½	27½	do
1/ Trade agreement with the United Kingdom, effective January 1939.			

Comment

Wrapping and packaging machinery comprises the diverse equipment used in wrapping bread, yeast, soap, candy, cigarettes, safety razor blades, and many other commodities; in bottling medicines, oils, beverages, etc.; in filling cans; and in weighing and bagging flour, grain, feed, salt, cement, etc.

Domestic manufacturers are capable of producing almost any type of wrapping and packaging machine desired. Demand is supplied by ready-made, special-made, and "home-made" machines. The British, however, appear to excel in the manufacture of certain machines for wrapping candy (particularly the twist-wrap machines), for packaging pipe tobacco, and for wrapping cigarette packages.

Imports have never been large in proportion to domestic production. They have consisted almost entirely of special machines, coming principally from the United Kingdom, Germany, and Switzerland. Most of those imported are of classes in too small demand in the United States to be attractive to the domestic machine industry.

In 1939, after the reduction in the duty by the trade agreement with the United Kingdom effective January 1 of that year, imports from the United Kingdom were materially smaller than in the two preceding years, but this may have been due to the disturbed economic and political conditions.

WRAPPING AND PACKAGING MACHINERY AND PARTS--Continued

Wrapping and packaging machinery: United States imports for consumption,
by kind, with principal sources, 1939

Kind	Total value	Principal sources
Pipe tobacco and cigarette-	\$49,190	UNITED KINGDOM, \$49,190.
Candy -----	69,152	UNITED KINGDOM, \$52,381; Germany, ^{1/} \$15,742.
Other -----	245,823	Germany, ^{1/} \$224,405; Switzerland, \$11,306; UNITED KINGDOM, \$8,167.

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

FOOD-PREPARING MACHINERY AND PARTS

Stat. import classes (1939): 780.36, 40, 52-3, and 59

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Germany ^{1/}	UNITED KINGDOM	Italy	Switzerland
	Value (1,000 dollars)						
1937	106,791	<u>2/</u> 3,816	250	145	55	8	30
1938	n.a.	<u>2/</u> 4,599	281	80	108	35	7
1939	86,034	5,851	160	61	58	20	10
1943	n.a.	<u>3/</u> 2,730	79	-	3	-	71

^{1/} Includes Austria beginning 1938.

^{2/} Excludes "cannery machinery"; includes "cream separators valued \$50 or over."

^{3/} Includes machinery valued at 361 thousand dollars exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
			<u>negotiating</u>
	<u>Act of</u>	<u>1945</u>	<u>country</u>
	<u>1930</u>	<u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 372:			
Food-preparing and manufacturing) machines:)			
Bakers' machines and parts)			
Chocolate and confectionery) machines and parts)	27½	27½	UNITED KINGDOM
Food grinding and cutting) machines and parts)			
Other, and parts)			

Comment

Bakery machines include mechanical batch-weighing devices, beaters, flour sifters, dough mixers, ovens, and other miscellaneous equipment. Included also are machines used in the preparation of special foods, extrusion machines for spaghetti and macaroni, and special equipment used in hotel kitchens.

Chocolate and confectionery machines include grinders, mixers, beaters, cooking kettles, conveyors, batch weighers; cutting, molding, pulling or drawing machines, and other special equipment required to produce various kinds of candy.

Food-grinding and cutting equipment consists of a number of specially designed machines used by the flour, grain, feed-milling, canning, sugar, dairy, and meat-packing industries.

United States production of food-preparing machinery has always been large. The various machines produced are made by a large number of manufacturers located in 20 or more states.

FOOD PREPARING MACHINERY AND PARTS-Continued

Imports consist essentially of special machines in small demand in the United States and miscellaneous repair parts for foreign equipment in use in the United States. Exports vary from 2 to 6 percent of domestic production and go to about a dozen countries. Exports have always been many times larger in value than imports.

Food-preparing machinery: United States imports for consumption,
by kind, by principal sources, 1939

Kind	Total value	Principal sources
Bakers' and parts -----	\$52,366	UNITED KINGDOM, \$36,673; Switzerland, \$6,469; Germany, ^{1/} \$5,611
Chocolate and confectionery and parts -----	69,433	Germany, ^{1/} \$54,951; UNITED KINGDOM, \$14,482.
Food grinding and cutting:		
Not household -----	1,742	Sweden, \$715; Germany ^{1/} \$651
Parts -----	597	Sweden, \$506; Germany ^{1/} 71
Other, and parts, n.e.s. ----	35,969	Italy, \$19,533; UNITED KINGDOM, \$7,255; France, \$4,882

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

TESTING MACHINES AND PARTS, NOT SPECIALLY PROVIDED FOR

Stat. import class (1939): 780.62

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Germany ^{1/}	Switzerland	Sweden	UNITED KINGDOM
			Value (dollars)				
1937 -	Not	n.a.	44,469	26,283	11,093	3,899	1,264
1938 -	avail-	n.a.	34,264	22,945	7,737	2,160	1,392
1939 -	able	n.a.	20,136	12,805	4,322	1,597	926
1943 -	(see text) ^{2/}	381,853	2,820	-	-	1,065	1,669

^{1/} Includes Austria beginning 1938.^{2/} Includes testing machines valued at \$214,022 exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed negotiating country

Act of 1930 1945
rate
Percent ad valorem

Par. 372

Machines for determining the strength of materials, or articles in tension, compression, torsion, or shear -----

27½ 1/20

UNITED KINGDOM

^{1/} Trade agreement with Switzerland, effective February 1936.Comment

Testing machines, excepting those of small size, are usually operated by an electric motor. Machines which cannot be designed to operate without electric motors, are dutiable under paragraph 353, otherwise under paragraph 372. The small, hand-operated types, therefore, and probably many of those electrically operated, are dutiable under paragraph 372. Certain high precision types are classed as scientific instruments.

No separate production data are available. A number of manufacturers, both large and small, produce this equipment as an associated line with other miscellaneous machinery.

A large percentage of imports in terms of value consists of machines not specially provided for. Imports, however, are believed to be small relative to both production and exports. Exports during prewar years were not separately recorded but are understood to have filled a large part of the demand in a number of countries.

PULP AND PAPER MACHINES, AND PARTS

Stat. import class (1939): 780.83

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Sweden	UNITED KINGDOM	Germany ^{1/}	Canada
	Value (1,000 dollars)						
1937 --	33,177	2,931	^{2/} 69	38	6	5	15
1938 --	n.a.	1,865	414	295	2	11	3
1939 --	21,516	1,794	146	93	21	16	9
1943 --	n.a.	^{3/} 1,803	15	-	7	-	8

^{1/} Includes Austria beginning 1938.^{2/} Includes merchandise valued at 101 thousand dollars imported from Norway.^{3/} Includes pulp and paper machines valued at 107 thousand dollars exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>	<u>Proposed negotiating country</u>
	<u>Act of</u> <u>1945</u>	
	<u>1930</u> <u>rate</u>	
	<u>Percent ad valorem</u>	

Par. 372

Machines, finished or unfinished,
n.s.p.f.; and parts thereof,
wholly or in chief value of metal
or porcelain, n.s.p.f.:

Machines for making paper pulp or
paper, and parts -----

27½ ^{1/} 20

UNITED KINGDOM

^{1/} Trade agreement with Sweden, effective August 1935.Comment

Included under this classification are machines (1) used in the preparation of wood, rags, and other fibrous material for conversion into pulp, (2) used in the conversion of the prepared material into pulp, (3) used in refining or packaging such pulp preliminary to its use in making paper, and (4) used in the manufacture of paper from the pulp. The classification does not include sawmill machines such as slashers, log conveyors, etc., and other machines which, though used in pulp mills, have a more general use in the lumber and wood-using industries. Pulp mill machines include barkers, chippers, grinders, chip crushers, and screens for preparing the wood; cutters, dusters, etc., for preparing rags; and screens, refiners, presses, dryers, beaters, etc., used in making or processing the pulp itself. The three types of machines commonly used for converting pulp into paper are the Fourdrinier, cylinder, and Yankee paper machines.

Pulp and paper machines are usually made to the customer's particular specifications, and only rarely are the parts interchangeable with those on other machines.

The United States is the largest producer and exporter of pulp- and paper-mill machinery. From 5 to 10 percent of the domestic machines are exported to about 15 countries. Exports have always been many times larger than imports. Most of the imports have been pulp machines from Sweden but now the most prominent machine in that trade is made in the United States.

SAWMILL AND WOODWORKING MACHINES AND PARTS

Stat. import classes (1939): 780.96, 780.97, 780.98

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	Sweden	Canada
	Value (dollars)					
1937 ---	21,859,989	2,246,266	<u>1</u> /1,074	-	-	-
1938 ---	n.a.	1,828,383	-	-	-	-
1939 ---	21,312,498	1,880,778	17,499	15,488	849	697
1943 ---	n.a.	<u>2</u> /3,208,658	131,697	10,914	-	120,783

1/ All imported from Germany.

2/ Includes merchandise valued at \$1,261,133 exported under lend-lease.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 372			
Machines, finished or unfinished, n.s.p.f., and parts:			
Sawmill and woodworking machinery:			
Reciprocating gang-saw machines for sawing logs, and parts ----	27½	1/27½	UNITED KINGDOM
Other and parts -----	27½	27½	do.
1/ Bound by trade agreement with Sweden, effective August 1935.			

Comment

The major groups of machines included hereunder are for the equipment of saw-mills, planing mills, veneer plants, and an extensive line of machines for making wood products such as furniture. The principal items in sawmills are the saw carriage, gang saws, lath and shingle machines, and various types of surfacing machines. Planing mill machines produce surfaced lumber and trim of many different types. Other woodworking machines are lathes, dado machines, carving equipment, and the like. Veneer mills have cookers to soften logs, veneer slicers, and various types of shapers and presses for making veneer panels and plywood.

In prosperous prewar years the domestic industry turned out between 20 and 30 million dollars worth of machines per year. There are many concerns in the business, although the number is not reported. Employment is probably between 10 and 15,000 persons, mostly highly skilled mechanics. The industry is distributed throughout the United States, units being found wherever there are lumbering operations or the manufacture of wood products. Production is centered, however, in the States bordering the Great Lakes and the New England and the North Atlantic States. The industry is on a strong export basis, usually something like 10 percent of the output being exported, and imports being almost negligible in comparison. In years prior to 1937 fairly substantial imports of gang saws were entered from Sweden. These saws were suitable for medium and small-sized timber and it is doubtful whether an equivalent type was made in this country.

During the immediate prewar and war years, Great Britain instituted logging operations on a big scale and required large quantities of sawmill and woodworking equipment. After the United States entered the war our armed forces set up a great many sawmills in the Pacific theater to save cargo space. The equipment was obtained from all available sources and this activity probably accounts for the wartime imports into the United States from Canada.

MISCELLANEOUS MACHINERY

Par. No. 372
UNITED KINGDOM
CANADA

Stat. import classes (1939): 780.35, 780.38, 780.39, 780.64, 780.68, 780.99

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from---				
			All countries	Germany <u>1/</u>	Switzer-land	UNITED KINGDOM	CANADA
	Value (1,000 dollars)						
1937 -	962,447	122,005	3,386	1,936	235	567	167
1938 -	n.a.	121,491	2,282	1,247	182	363	58
1939 -	796,481	121,087	1,598	836	227	161	76
1943 -	<u>2/</u>	<u>3/</u> 228,675	<u>4/</u> 1,761	<u>5/</u>	38	440	1,229

^{1/} Includes Austria beginning 1938. ^{2/} Estimated at about 2.5 billion dollars.

^{3/} Includes 149,655 thousand dollars exported under lend-lease.

^{4/} Free for Government use 392 thousand dollars, and free as an act of international courtesy 523 thousand dollars.

^{5/} Less than \$500.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u> <u>negotiating</u> <u>country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 372			
Acetylene gas generators, and parts	20	20	UNITED KINGDOM and CANADA
Air and gas compressors, and parts	27½	27½	do.
Brewing machinery and parts -----	27½	27½	do.
Mining machinery and parts -----	27½	27½	do.
Machinery and parts, n.s.p.f. -----	27½	27½	do.

Comment

This group of miscellaneous machinery includes a wide variety of machinery grouped for statistical purposes under the import classification "machinery and parts not elsewhere specified", and also 5 other classes of imports which are separately reported but for which separate digests have not been prepared. The class "machinery and parts n.e.s." is by far the most important; in 1939 it contributed 96 percent of the total imports discussed in this digest and nearly one-quarter of all the imports under paragraph 372. United States production of machinery which if imported would enter under this classification comprises nearly half the value of all machinery production. In 1939 it represented three-fourths of all domestic machinery exports. About half the group, in value of domestic production, consists, in order of magnitude, of the following classes: construction and road machinery, (except tar and oil spreading machines) pumps, oil field machinery, gearing and other mechanical power transmission equipment, conveyors, elevators, and mining machinery.

MISCELLANEOUS MACHINERY-Continued

As a whole this is the group in which imports are the least, and exports the greatest, in relation to domestic production. Although in the table the group including the large class of imports reported as "machinery not elsewhere classified" is compared with domestic production and exports of an approximately similar group the comparison is not particularly significant, first, because the frequent lack of sufficient description on entry papers results in throwing to this class much machinery and parts properly belonging to other classes, and second because both imports and production are made up of varied kinds of machinery the manufacture of which constitutes distinct industries with conditions as regards import competition differing considerably from one to another.

Miscellaneous machinery: United States imports for consumption
by kind, with principal sources, 1939

Item	Total value	Principal sources
Acetylene gas generators -----	\$1,193	CANADA, \$1,134
Compressors, air and gas -----	13,892	Germany ^{1/} \$13,892
Compressors, air and gas parts ---	9,362	Germany ^{1/} \$954; CANADA \$186
Brewing machines and parts -----	17,512	UNITED KINGDOM, \$72 ^{1/} Switzerland \$9,086; Germany, \$8,426
Mining machinery and parts -----	18,816	UNITED KINGDOM, \$8,685; Germany, \$7,473; CANADA, \$2,444
Machinery and parts, n.e.s. -----	1,544,740	Germany ^{1/} \$805,458; Switzerland, \$217,713; UNITED KINGDOM, \$152,101; France, \$92,270; CANADA, \$72,339

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

AGRICULTURAL AND SIMILAR TOOLS
(See digest on hay and manure forks, par. 355)

Stat. import classes (1939): 615.81-615.83 and 615.95-615.99

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	Sweden	
Value (1,000 dollars)						
1937 ----	<u>1/</u> 13,937	418	73	46	25	
1938 ----	n.a.	363	43	28	14	
1939 ----	<u>1/</u> 12,304	475	33	20	12	
1943 ----	n.a.	<u>2/</u> 1,305	<u>3/</u> 1	<u>4/</u>	-	

1/ Includes hay and manure forks, production of which is estimated at about two thousand dollars in 1939.
2/ Includes 431 thousand dollars exported under lend-lease.
3/ Includes imports valued at \$313 imported from Canada. 4/ Less than \$500.
Source: Official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u> <u>negotiating</u> <u>country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 373			
Shovels, spades, scoops, and drainage tools, of metal, and parts thereof -----	30	<u>1/</u> 15	UNITED KINGDOM
Forks, hoes, and rakes, of metal, and parts thereof:			
Agricultural hand tools -----	30	<u>1/</u> 7½	do.
Other -----	30	30	do.

1/ Trade agreement with the United Kingdom, effective January 1939; previously reduced to 15 percent under section 336 of the Tariff Act of 1930, effective April 1933, and bound at that rate by trade agreement with Sweden, effective August 1935.

Comment

It is estimated that only about one-eighth of the shovels, spades, scoops, and drainage tools used in the United States are used for agricultural purposes. Drainage tools are narrow spades used for trenching. Shovels and scoops are used mainly in construction, in maintenance, and in material handling. Many forks, hoes, and rakes are used on such material as ballast, mortar, and gravel. However, most of the small imports of forks, hoes, and rakes are classed as agricultural tools.

One United States firm makes a full line of these tools. This firm and one other are the principal suppliers of forks, hoes, and rakes; several others produce shovels, spades, and scoops. The principal foreign producing countries are Great Britain, Sweden, and Germany. British production is usually less than half that of the United States, and Swedish production is still smaller.

Some spades of British design and a few firing shovels of special type are imported to supply a limited demand, but total imports of shovels, spades, and scoops have been very small. Some heads of forks, hoes, and rakes were imported from Germany before the war and fitted with domestic handles; complete tools were

AGRICULTURAL AND SIMILAR TOOLS--Continued

imported from Sweden and the United Kingdom. The finish of these tools corresponded to that of the lower rather than of the higher grades of domestic tools. Many foreign tools have peculiarities which are acceptable in the country of manufacture, but which hinder their sale in the United States and the import trade in general has catered chiefly to purchasers of foreign birth.

In 1939 imports of agricultural hand tools, the duty on which had been reduced by one-half in the trade agreement with the United Kingdom, effective January 1 of that year, were smaller than in either of the two preceding years, but this was probably attributable to the generally disturbed economic and political conditions in the principal supplying countries.

Agricultural and similar tools: United States imports for consumption,
by kind, with principal sources, 1939

Kind	Total value	Principal sources
Shovels, spades, scoops -----	\$3,303	UNITED KINGDOM, \$2,994; Canada, \$160
Drainage tools -----	18	Japan, \$18
Parts of -----	329	UNITED KINGDOM, \$279; Canada, \$50
Forks, hoes, rakes (nonagri- cultural) and parts -----	113	UNITED KINGDOM, \$92; Japan, \$21
Agricultural tools:		
Forks, n.e.s. -----	9,264	Sweden, \$7,096; UNITED KINGDOM, \$2,127
Hoes -----	14,353	UNITED KINGDOM, \$13,495; Japan, \$596
Rakes -----	1,956	Sweden, \$1,826; UNITED KINGDOM, \$123
Parts of -----	3,626	Sweden, \$2,703; UNITED KINGDOM, \$923

Source: Official statistics of the U. S. Department of Commerce.

ALUMINUM METAL AND MILL PRODUCTS, ETC.

Stat. import classes (1939): 6302.1, 6302.3, and 6303.0

United States production, exports, and imports, 1935-45

Year	Production ^{1/}	Domestic exports ^{2/}	Imports for consumption ^{3/} from--				
			All countries	CANADA	UNITED KINGDOM	France	Norway
Quantity (short tons)							
1935 -----	111,048:	2,460:	10,646:	2,608:	538:	4:	5,421
1936 -----	163,965:	1,254:	12,781:	1,503:	772:	1,305:	5,583
1937 -----	208,901:	2,986:	22,589:	12,814:	583:	477:	4,812
1938 -----	182,241:	6,597:	8,870:	1,216:	432:	2,759:	2,953
1939 -----	217,492:	37,793:	14,336:	4,048:	3,989:	2,834:	2,083
Average, 1935-39 :	176,729:	10,218:	13,844:	4,438:	1,263:	1,476:	4,170
1940 -----	286,642:	29,074:	13,084:	15,249:	165:	2,506:	133
1941 -----	415,924:	4/ 7,829:	5/ 13,412:	13,331:	6:	--:	--
1942 -----	717,570:	4/ 42,177:	5/ 112,137:	112,059:	--:	--:	--
1943 -----	1,234,110:	4/ 121,770:	5/ 135,822:	135,731:	--:	--:	--
1944 ^{6/} -----	1,102,091:	4/ 193,744:	5/ 102,754:	102,729:	--:	--:	--
1945 ^{6/} -----	794,874:	4/ 7,357:	5/ 339,293:	333,704:	589:	--:	--
Average, 1940-45 :	758,540:	66,992:	120,250:	119,634:	127:	418:	22
Value (1,000 dollars)							
1935 -----	41,088:	1,044:	3,694:	959:	172:	1:	1,719
1936 -----	60,667:	700:	4,165:	590:	235:	373:	1,600
1937 -----	79,382:	1,540:	6,883:	4,084:	208:	126:	1,282
1938 -----	71,985:	4,226:	2,491:	382:	92:	737:	795
1939 -----	85,909:	21,869:	3,385:	1,120:	661:	616:	568
Average, 1935-39 :	67,806:	5,876:	4,124:	1,427:	274:	371:	1,193
1940 -----	100,128:	19,193:	4,737:	3,991:	24:	676:	37
1941 -----	135,102:	4/ 5,343:	5/ 3,619:	3,599:	1:	--:	--
1942 -----	208,617:	4/ 24,969:	5/ 35,501:	35,478:	--:	--:	--
1943 -----	355,926:	4/ 63,636:	5/ 41,303:	41,295:	--:	--:	--
1944 ^{6/} -----	315,681:	4/ 81,573:	5/ 30,230:	30,228:	--:	--:	--
1945 ^{6/} -----	227,221:	4/ 3,705:	5/ 98,290:	98,013:	277:	--:	--
Average, 1940-45 -:	223,779:	33,079:	35,613:	35,434:	50:	113:	6

^{1/} Represents primary and secondary ingots.^{2/} Represents ingots, plates, rods, sheet, strips, tubes, molds, castings, and other shapes.^{3/} Represents metal, scrap, and shapes (mainly metal).^{4/} Includes the following exported under lend-lease:

	Short tons	Thousand dollars
1941 -----	237	143
1942 -----	27,444	14,347
1943 -----	108,164	57,402
1944 -----	187,240	78,355
1945 -----	2,317	1,384

^{5/} Free for Government use amounted to the following:

	Short tons	Thousand dollars
1941 -----	610	305
1942 -----	106,383	33,448
1943 -----	124,647	37,233
1944 -----	100,640	29,853
1945 -----	332,029	97,165

^{6/} Preliminary.

Source: Production from statistics of the U. S. Bureau of Mines; exports and imports from official statistics of the U. S. Department of Commerce.

ALUMINUM METAL AND MILL PRODUCTS, ETC.--Continued

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Cents per pound		
Par. 374.			
Aluminum, aluminum scrap, and alloys (except those provided for in par. 302 of the Tariff Act of 1930) in which aluminum is the component material of chief value, in crude form -----	4	1/ 3	CANADA
Aluminum, and alloys (except those provided for in par. 302 of the Tariff Act of 1930) in which aluminum is the component material of chief value, in coils, plates, sheets, bars, rods, circles, disks, blanks, strips, rectangles, and squares -----	7	2/ 6	UNITED KINGDOM
1/ Trade agreement with Canada, effective January 1939.			
2/ Trade agreement with the United Kingdom, effective January 1939.			
Note.-- The ad valorem equivalent of the duty on total imports of aluminum metal, scrap, and crude alloys in 1939 was 26 percent and on imports of aluminum and alloys in coils, plates, etc., was 27 percent.			

Comment

Crude aluminum is generally marketed in the form of ingots. The ordinary grade is over 99 percent pure, comparatively soft and ductile. The addition of small amounts of iron and silicon (usually less than 1%) to commercial aluminum greatly increases its strength and hardness, and the addition of alloying elements such as copper, magnesium, manganese, and nickel produces other desired changes in its physical properties. Crude aluminum and aluminum alloys are used principally for making sheets, structural shapes, bars, tubing, wire, and castings; in the form of shot and broken ingots, aluminum is used as a deoxidizer for molten steel and other metals. Aluminum mill products are used in aircraft, machinery, building construction, railway equipment, radios, home appliances, kitchen utensils, and a variety of other manufactures.

During the interwar period the United States production of aluminum metal increased at a slightly greater rate than that of other structural metals except magnesium. This growth can be attributed to improved alloys, increased technical efficiency, and the gradual lowering of prices of aluminum products. The average annual output of primary and secondary aluminum for the 1935-39 period was approximately double that of the preceding 10 years. Aluminum recovered from scrap normally amounted to about 30 percent of the total domestic production. The war demand for aluminum resulted in a rapid expansion of production facilities, with the result that production in 1943 was approximately seven times the annual average of the 1935-39 period. In 1943 privately owned plants had a maximum capacity (ingot) of about 500,000 tons and Government-built and owned plants, leased and operated by private operators, had an estimated maximum capacity of over 600,000 tons. These facilities plus those of Canada now have a capacity considerably larger than the entire prewar world total.

During the war the United States Government invested approximately \$345,000,000 in 21 new aluminum fabricating plants in addition to about \$17,000,000 in equipment installed in privately owned plants. These facilities coupled with prewar private manufacturing capacity provide fabricating capacity greatly in excess of any presently foreseeable postwar demand for aluminum mill products. Government policy is to dispose both of the basic metal plants and the fabricating plants to competitors of Alcoa (Aluminum Co. of America) and certain such transfers have already been made.

ALUMINUM METAL AND MILL PRODUCTS, ETC.-Continued

Annual exports of metal and mill products before 1939 were normally only a few percent of United States production, but with the increased demands of wartime and the passage of the Lend-Lease Act, they rose to over 10 percent of production. The major volume of aluminum exported from the United States in the prewar period was contained in finished products such as aircraft, refrigerators, radios, automobiles, and other similar commodities, for which actual statistics are not available as to the weight of contained aluminum. A postwar demand for urgently needed civilian goods in many foreign countries should increase the United States export trade but, even though it were double our prewar exports, this would not greatly alleviate the situation resulting from our excess fabricating capacity.

Average imports of aluminum metal and aluminum mill products (mainly metal) during the period 1935-39 were approximately $7\frac{1}{2}$ percent of the average apparent consumption in the United States and rose to about 10 percent in the war period 1940-45. During the 1920's and 1930's imports of aluminum into the United States were probably less affected by the duty (4¢ per pound prior to 1939) than by corporate relationships between domestic and foreign producers and by international cartel arrangements.

United States imports in the postwar period will probably come entirely, or predominantly, from Canada, since there has been a great wartime increase in Canadian aluminum capacity (rated at 500,000 tons annually in 1945); this, however, might depend on intercorporate relationships (discussed below). This capacity is now many times greater than Canada's own requirements despite the wartime expansion of fabrication plants in Canada, and therefore the utilization of her primary metal capacity, which operates at low cost, will depend to a great extent on the export of large quantities of ingot.

Indications are that favorably situated plants in the United States are in a strong competitive position in the United States market compared with European producers. Canadian producers, however, are in a position to offer strong competition in United States markets. About 90 percent of the bauxite consumed in the United States comes from Dutch Guiana (Surinam), where costs are believed to approximate those of British Guiana, the source of the ore used in Canada. However, the principal aluminum plants in Canada are so situated that they receive bauxite directly by sea, whereas this is not true of United States plants and therefore transportation costs to the Canadian plants are somewhat lower. Although there is no import duty on bauxite imported into Canada, bauxite entering the United States is subject to a duty of \$1.00 per ton. This amounts, however, to only about 1/5¢ per pound of contained aluminum. The greatest single advantage which plants in Canada have over most plants in the United States is cheaper water power.

In the competition for export trade, the Canadian aluminum production is of primary concern to the United States industry. Proof of the growing efficiency of the latter, however, is given by the extent to which it has been able to reduce prices during the wartime period despite increased labor costs (ingot price in 1939 was 20¢ per pound; present price, 15¢). With increased competition in the aluminum field in the United States, as a result of the Government's anti-trust suit against Alcoa and the policy of the Surplus Property Board in disposing of Government plants to Alcoa's competitors, the price of aluminum in the postwar period may continue to be lowered. Any such price decrease should be conducive to export trade to third countries both from the United States and from Canada. In crude aluminum ingot and certain semifinished shapes, the Canadian industry has always had a greater portion of the overseas market than the United States. On the other hand, aluminum mill products made in large American plants may, in the future, have an advantage over Canadian output because of the economies of mass production in the United States. That this advantage existed before the war is indicated by United States imports of Canadian ingots with benefit of drawback and re-export in shapes such as sheets, plates, and bars.

The United States duty on aluminum metal was reduced from 4 to 3 cents per pound effective January 1939. This 3-cent rate was higher than the rates in Norway, the Soviet Union, or the United Kingdom but lower than those in most European countries. The size of future imports, whether under the present rate of duty or under

ALUMINUM METAL AND MILL PRODUCTS, ETC.-Continued

a reduced rate, will depend on a number of factors among which are: (1) the degree of competition existing in the domestic industry (the situation in this respect at present is different from that before the war); (2) the comparative costs of production in the United States and in European countries, in several of which aluminum-producing capacity has been materially expanded during the war; (3) the extent and the nature of international cartels or international communities of interest among European producers or between them and North American producers; (4) the relative costs of production in the United States and Canada; and (5) the relationships which may exist between Alcoa, still the leading domestic producer, and Aluminium Ltd. of Canada, the only producer of aluminum ingot in that country. The last point is particularly important, since in the absence of understandings between Alcoa and Aluminium Ltd., Canada would be likely to be the principal source of imports into the United States.

Aluminum: United States imports for consumption, by kinds,
with principal sources, 1939

Kind	Total value	Principal sources
		Value (1,000 dollars)
Crude metal and alloys -----	2,491	CANADA, 1,048; Norway, 568; France, 440; Switzerland, 347.
Scrap -----	761	UNITED KINGDOM, 495; France, 175; CANADA, 72.
Plates, sheets, bars, etc. ---	134	UNITED KINGDOM, 88; Switzerland, 41.

Source: Official statistics of the U. S. Department of Commerce.

MAGNESIUM METAL, SCRAP, ALLOYS, POWDER, SHEETS, RIBBONS, TUBING, CANADA
WIRE, AND OTHER ARTICLES, WARES, OR MANUFACTURES, N.S.P.F. UNITED KINGDOM

Stat. import classes (1939): 676.31, 676.32, 676.33, 676.34

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from--			
			All countries	Germany ^{2/}	CANADA	UNITED KINGDOM
	Quantity (pounds ^{3/})					
1937 ---	4,539,980	n.a.	1,321	1,321	-	-
1938 ---	4,819,617	^{4/} 2,100,000	60	12	-	48
1939 ---	6,700,122	^{4/} 4,200,000	76	76	-	-
1943 ---	367,168,000	^{5/} 80,859,542	189	-	189	-
	Value (dollars)					
1937 ---	^{6/} 1,361,994	n.a.	1,727	1,727	-	-
1938 ---	^{6/} 1,445,885	^{6/} 630,000	188	109	-	79
1939 ---	^{6/} 1,809,033	^{6/} 1,134,000	49	49	-	-
1943 ---	^{6/} 75,269,440	^{5/} 18,958,177	86	-	86	-

- ^{1/} Ingot only.
^{2/} Includes Austria beginning 1938.
^{3/} Import quantities represent magnisum content.
^{4/} Estimated by the U. S. Bureau of Mines.
^{5/} Includes 78,474,657 pounds valued at \$17,959,986 exported under lend-lease.
^{6/} Calculated on the basis of the lowest nominal price (New York) for primary ingot 99.8 percent pure, carlots.

Source: Production from statistics of the U. S. Bureau of Mines, except as noted; exports and imports from official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
	<u>Per pound magnesium content</u>		
Par. 375			
Metallic magnesium and metallic magnesium scrap -----	40¢	40¢ ¹ / ₂	CANADA, UNITED KINGDOM
Magnesium alloys, powder, sheets, ribbons, tubing, wire, and all other articles, wares, or manufactures of magnesium, n.s.p.f. -	40¢ + 20% ad val.	40¢ + 20% ad val.	CANADA, UNITED KINGDOM

^{1/} Duty on scrap suspended, effective March 1942, for duration of unlimited national emergency (Public Law 497, 77th Congress).

Note.--Because of the insignificant imports, the ad valorem equivalent of the duty has not been computed. As to the relation between the height of the duty and the domestic price of metallic magnesium, see text.

MAGNESIUM METAL, SCRAP, ALLOYS, POWDER, SHEETS, RIBBONS, TUBING,
WIRE, AND OTHER ARTICLES, WARES, OR MANUFACTURES,
NOT SPECIALLY PROVIDED FOR--Continued

Comment

Magnesium, the lightest of the industrial metals, is obtained from dolomite, a magnesium carbonate rock, and from magnesium chloride which is derived from the brines of salt wells and from sea water. At the present time all domestic production is from sea water because of lower production costs. Only one concern, the Dow Chemical Co., is now producing primary magnesium in the United States.

Prior to 1940 the magnesium industry of the United States was of relatively minor importance, but military requirements during the war resulted in an expansion unparalleled by that of any other industry except that of synthetic rubber. Domestic output of primary magnesium rose from about seven million pounds in 1939 to more than 367 million pounds in 1943. During the latter year approximately 23 million pounds of secondary magnesium were recovered in addition to the large primary production.

The wartime expansion of the magnesium industry was almost entirely financed by the Government, which owns 13 plants accounting for about 90 percent of the total production capacity. These plants are now idle and the prospects of their sale to private interests for the production of magnesium are not promising. It is probable that only a small part of the industry's capacity will be in operation during the next few years.

Tubing, sheet, rod, castings, and other mill products of magnesium and magnesium alloys are used for structural purposes in products and where weight saving is desirable, such as aircraft, small boats, portable pneumatic tools, sewing machines, wheel barrows, and similar products. Since magnesium powder ignites easily and burns with intense light and heat, it is an important component of photo-flash powder, incendiary bombs, flares, tracer bullets, and "goop," the jellied gasoline used in flame throwers.

Imports have been virtually nonexistent. Exports, however, were steadily increasing before the war; during the war, under conditions of extraordinary demand, about 22 percent of domestic production was exported (in 1943)--mostly under lend-lease. Exports of metal and mill products during the first four months of 1946, the first peacetime year, have been only at the rate of approximately 37,000 pounds per month.

The price of magnesium metal in the United States was steadily reduced from 56 cents per pound in 1929 to 20.5 cents per pound in 1943, at which level it has remained to the present time. The duty on imports of metal and scrap of 40 cents per pound is, therefore, almost twice as much as the selling price of domestically produced metal.

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ANTIMONY

Stat. import classes (1939): 6651.0, 6651.1

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports ^{2/}	Imports for consumption from—			
			All countries	CHINA	Belgium	Mexico
	Quantity (1,000 pounds)					
1937 —	2,600	873	3,630	2,407	161	830
1938 —	1,300	1,421	1,821	1,497	49	223
1939 —	800	115	2,545	1,740	382	250
1943 —	11,000	581	1,866	2	—	1,286
	Value (1,000 dollars)					
1937 —	400	87	330	183	16	100
1938 —	150	97	167	130	5	26
1939 —	95	17	227	144	36	30
1943 —	1,800	88	268	3/	—	203

^{1/} Estimated from domestic ores.

^{2/} Reexports of imported material. Includes domestic exports in 1943 of 580 thousand pounds, valued at 87 thousand dollars of which 317 thousand pounds, valued at 48 thousand dollars were exported under lend-lease.

^{3/} Less than \$500.

Source: Production from U. S. Bureau of Mines; exports and imports from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Cents per pound		
Par. 376		1/	
Needle or liquated antimony ———	1/4	1/4	CHINA
Antimony as regulus or metal ———	2	2/ 2	Do.

^{1/} The ad valorem equivalent of the duty of 1/4 cents per pound on total imports in 1939 was 4 percent.

^{2/} The ad valorem equivalent of the duty of 2 cents per pound on total imports in 1939 was 21 percent.

Comment

Antimony, as a constituent of antimonial lead, is used in the manufacture of storage battery plates, antifriction bearings, cable sheathing, and type metal; as an oxide, in flameproofing heavy textiles such as canvas; and in the metallic form, in the preparation of certain industrial chemicals. With the expected large production of automobiles in the near future, antimony should be in strong demand for use in storage batteries and bearing metals.

The United States, although ranking third as a consumer of antimony, is largely dependent upon foreign sources for its supply. For this reason, and because of its military importance, antimony is classified as a strategic and critical material. Statistics of production and imports in the above table do not include antimony contained in imported ore which is duty-free. Imports of antimony metal contained in ore amounted to about 27 million pounds in 1937; 17 million pounds in 1938; 19 million pounds in 1939; and 57 million pounds during 1943. A small portion of

ANTIMONY--Continued

United States imports consists of needle or liquated antimony used to produce antimony metal and chemicals. Needle or liquated antimony is antimony sulphide and contains a minimum of 70 percent of antimony.

"Regulus" is the term applied to antimony metal which is at least 99 percent pure.

China has long been the largest producer of antimony in the world and until 1932 was the principal source of imports into the United States. During 1931 an antimony smelter was erected by British interests in the United States to process ore (duty-free). The metal produced by this smelter was sold on the domestic market in competition with Chinese regulus which is dutiable at 2 cents per pound, and soon practically displaced the Chinese metal. It is probable that metal from this smelter is able to compete with the Chinese metal only because of a duty on the regulus.

Antimony metal: United States imports for consumption,
by kind, with principal sources, 1939

Kind	Total value	Principal sources
Needle or liquated antimony -----	\$30,102	CHINA, \$26,509; United Kingdom, \$3,216.
Antimony as regulus or metal -----	196,812	CHINA, \$117,072; Belgium, \$35,954; Mexico, \$29,915

Source: Official statistics of the U. S. Department of Commerce.

CADMIUM METAL

Stat. import class (1939): 676.04

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	Belgium	Italy	CANADA
Quantity (1,000 pounds)						
1937 ----	3,996	n.a.	<u>1/</u> 829	251	-	271
1938 ----	4,078	<u>2/</u> 458	23	20	2	-
1939 ----	5,190	n.a.	310	197	35	30
1943 ----	8,327	<u>3/</u> 157	<u>4/</u> 49	-	-	-
Value (1,000 dollars)						
1937 ----	4,800	n.a.	<u>1/</u> 1,075	302	-	354
1938 ----	4,000	n.a.	31	29	1	-
1939 ----	2,776	n.a.	131	85	15	15
1943 ----	6,571	<u>3/</u> 148	<u>4/</u> 41	-	-	-

1/ Includes 139 thousand pounds, valued at 206 thousand dollars imported from the United Kingdom.

2/ Reported by U. S. Bureau of Mines, probably in compounds.

3/ Includes 152 thousand pounds, valued at 143 thousand dollars exported under lend-lease.

4/ Includes 40 thousand pounds, valued at 33 thousand dollars imported from the Belgian Congo.

Source: Production for 1937-43, and exports for 1938, from statistics of the U. S. Bureau of Mines; other exports and imports from official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed
negotiating
country

Act of 1945
1930 rate

Cents per pound

Par. 378

Cadmium metal ----- 15 1/ $7\frac{1}{2}$ CANADA

1/ Trade agreement with Canada, effective January 1939.

Note.- The duty on total imports in 1939 was equivalent to 18 percent ad valorem.

Comment

Cadmium metal is used in large quantities by the automobile and other heavy industries for plating, and to a lesser extent it is used in bearing metals. It is a byproduct of the smelting and refining of zinc and the production of lithopone. United States production is derived from the treatment of domestic and foreign zinc ores and also from cadmium-bearing zinc flue dust, part of which is imported from Mexico. United States production was about 45 percent of the world total in 1938.

In prewar years the United States on the average (with marked variations from year to year) imported about 10 percent of its requirements, and this ratio will probably be applicable to the postwar period, whether or not the duty is further reduced. Imports of metallic cadmium originate in Canada and western Europe.

COPPER, BRASS, AND BRONZE MILL PRODUCTS (SUMMARY DIGEST)

UNITED
KINGDOM

(See also separate digests which follow on

(1) Copper mill products, and (2) Brass and bronze
mill products)

Stat. import classes (1939): 643.00, 643.02-643.05, 6458.0-6458.5, 6459.6-6459.7

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	Germany ^{1/}	Canada
	Quantity (1,000 pounds) ^{2/}					
1937 ----	1,880,000	55,235	213	184	27	1
1938 ----	n.a.	36,896	497	470	22	4
1939 ----	1,744,000	65,646	407	385	20	1
1943 ----	^{3/} 5,580,000	^{4/} 244,264	^{5/} 14,505	200	-	14,304
	Value (1,000 dollars)					
1937 ----	315,000	8,453	85	68	18	^{6/}
1938 ----	n.a.	4,672	144	127	15	1
1939 ----	283,000	8,807	144	131	13	^{6/}
1943 ----	^{3/} 1,380,000	^{4/} 55,493	^{5/} 2,971	52	-	2,219

^{1/} Includes Austria beginning 1938.^{2/} Imports, copper content.^{3/} Estimated.^{4/} Includes 233,452 thousand pounds, valued at 52,293 thousand dollars, exported under lend-lease.^{5/} Free for Government use, 201 thousand pounds, valued at 52 thousand dollars.^{6/} Less than 500 dollars.

Source: Production (value) from statistics of the American Bureau of Metal Statistics; other data, except as noted, from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Cents per pound		
Par. 381			
Copper:			
Rolls, sheets, and rods ----	2½	2½)	
Engravers' plates, not ground	7	7)	
Engravers' plates, ground ---	11	11)	
Tubes and tubing (seamless) -	7	7) plus	
Tubes (brazed) -----	11	11) 4¢	
Brass:			
Rods, sheets, plates, etc. --	4	4) per	
Sheets, sheathing, Muntz, etc.	4	4) lb.	UNITED KINGDOM
Tubes and tubing (seamless) -	8	2/ 4) on	
Tubes (brazed) -----	12	12) copper	
Angles and channels -----	12	12) content ^{1/}	
Bronze:			
Rods and sheets -----	4	4)	
Tubes -----	8	2/ 4)	

^{1/} Import-exercise tax, effective June 1942, imposed under sec. 3425, Internal Revenue Code. ^{2/} United Kingdom trade agreement, effective January 1939.Comment

The United States is the world's largest producer of copper, brass, and bronze mill products and has the largest home market. Imports have been negligible when compared with the total domestic output. Such imports as have entered the United States have been highly specialized either in form or in the composition of the alloy. The only import item of importance (see following table) consisted of seamless tubes imported to meet certain requirements of the U. S. Maritime Commission.

COPPER, BRASS, AND BRONZE MILL PRODUCTS (SUMMARY DIGEST)--Continued

Copper, brass, and bronze mill products: United States production, exports, and imports for consumption, 1939

Item	Production	Domestic exports	Imports for consumption from:				Equivalent ad valorem of duty and tax Percent
			Total	UNITED KINGDOM	Canada	Germany 1/	
Copper:							
Rolls, sheets, and rods ---	\$81,645,000	2/ \$5,842,761	\$1,135	-	\$235	\$900	29
Engravers' plates, not ground ---	n.a.	-	-	-	-	-	-
Engravers' plates, ground ---	n.a.	-	12,614	\$824	-	11,790	20
Tubes and tubing, seamless ---	29,385,000	3/ 746,833	-	-	-	-	72
Tubes, brazed ---	n.a.)	-	-	-	-)
Brass and bronze:							
Sheets, plates, bars, and rods ---	138,000,000	4/ 1,182,535	1,559	1,417	60	-	28
Tubes and tubing, seamless ---	29,734,744	3/ 500,492	128,790	128,553	-	191	29
Tubes, brazed ---	1,547,033)	-	-	-	-)
Angles and channels ---	2,614,000	n.a. 5/	-	-	-	-	-

1/ Includes Austria. 2/ Plates, sheets, and rods. 3/ Pipes and tubes.

4/ Plates and sheets. 5/ Not separately classified.

Source: Official statistics of the U. S. Department of Commerce.

During the war new alloys and techniques of application were developed in the United States which will tend to eliminate the need for future imports of those articles which entered before the war. However, in a field embracing thousands of alloys and of forms, there may develop a demand for some new highly specialized products not produced in this country. A maximum reduction in the duties would tend to increase imports of such specialties, including some specialties of which there is production in the United States. In the aggregate, however, unless conditions regarding prices of copper metal should change materially, imports would probably continue to be extremely small in relation to domestic production and exports. The need to carry extensive stocks for prompt servicing of customers is a deterrent to import trade, apart from the duties.

In the past, the revenue tax of 4 cents a pound on the copper content of imports of the products of copper, brass, and bronze mills has been an important additional protection to the domestic mills, especially on the lower-priced articles. This additional protection resulted from the fact that the revenue tax on raw copper had little effect on the price of raw copper in the United States, and hence little effect on the costs of the mill products. However, this situation might change in the future so that the domestic price of copper would exceed the foreign price by all or part of the revenue tax on imports, whatever the tax may be at that time. In that case the tax on the copper content of the imported mill products would cease to be an additional protection to the domestic manufacturers, or be a less important protection.

COPPER, BRASS, AND BRONZE MILL PRODUCTS (SUMMARY DIGEST)--Continued

On the other hand, if the domestic price of copper metal should come to exceed the foreign price by all or a considerable part of the revenue tax on imports of copper, this would not necessarily result in reducing United States exports of copper, brass, and bronze mill products below the levels they would otherwise attain. It would still be possible under existing law for the mills to use as material for export products foreign copper treated in bond without payment of the tax, or at least to obtain a drawback of any tax paid. Before the war a considerable part of the exports of mill products was actually manufactured from foreign copper under these provisions, although so long as the domestic price of copper was not materially higher than the foreign price, it was possible also to export mill products manufactured from the domestic metal. Many of the copper, brass, and bronze mills are so situated geographically as to facilitate the use of imported metal as material for export goods.

COPPER MILL PRODUCTS

Stat. import classes (1939): 643.00; 643.02; 643.03; 643.04; 643.05

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from--			
			All countries	Canada	Germany ^{2/}	UNITED KINGDOM
	Quantity (1,000 pounds) ^{3/}					
1937 ---	730,000	35,618	27	4/	25	1
1938 ---	n.a.	32,101	28	4	21	3
1939 ---	800,000	52,083	22	1	20	1
1943 ---	380,000	^{5/} 37,414	^{6/} 74	16	-	58
	Value (1,000 dollars)					
1937 ---	115,000	5,245	17	4/	17	1
1938 ---	n.a.	3,707	16	1	14	1
1939 ---	113,000	6,590	14	4/	13	1
1943 ---	^{7/} 80,000	^{5/} 14,096	^{6/} 20	4	-	16

^{1/} Total quantity reported by U. S. Department of Commerce.^{2/} Includes Austria beginning 1938. ^{3/} Copper content. ^{4/} Less than 500.^{5/} Includes 34,011 thousand pounds valued at 13,170 thousand dollars exported under lend-lease. ^{6/} Free for Government use, 59 thousand pounds valued at 16 thousand dollars. ^{7/} Estimated.

Source: Production values from statistics of the American Bureau of Metal Statistics, except as noted; other data from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Cents per pound		
Par. 381			
Copper:			
Rolls, sheets, and rods -----	21	21)	
Engravers' plates, not ground -----	7	7) Plus 4¢	
Engravers' plates, ground -----	11	11) per pound	UNITED KINGDOM
Tubes and tubing (seamless) -----	7	7) on copper	
Tubes (brazed) -----	11	11) content 1/	

^{1/} Import-exercise tax, effective June 1932, imposed under sec. 3425, Internal Revenue Code.

Note.- See table at end of digest for ad valorem equivalents of duties.

Comment

Copper mill products are used widely in the electrical, automotive, construction, railway, and manufacturing industries. Applications of these products also cover a multitude of uses in the telephone and telegraph, shipping, air conditioning, and refrigeration industries.

Imports have been negligible when compared with domestic production.

Production during 1943 was relatively low owing to the diversion of copper from peacetime uses to the production of ammunition. With lifting of priority regulations and the return to a peacetime economy, copper mill products should be in strong demand.

COPPER MILL PRODUCTS-Continued

The wide variation in the ad valorem equivalents of the rates of duty from year to year is due to the specialty nature of the bulk of imports.

Copper mill products: United States imports for consumption,
by kind, with principal sources, 1939

Kind	Total value	Principal sources
Rolls, sheets, and rods -----	\$1,135	Germany, ^{1/} \$900; Canada, \$235
Engravers' plates (not ground) ----	-	-
Engravers' plates (ground) -----	12,614	Germany, ^{1/} \$11,790; UNITED KINGDOM, \$824
Tubes and tubing (seamless) -----	-	-
Tubes (brazed) -----	-	-

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

Copper mill products: Ad valorem equivalent of import duty and excise
tax on United States imports for consumption, 1937-39

	1937	1938	1939
	Percent	Percent	Percent
	ad valorem	ad valorem	ad valorem
Rolls, sheets, and rods -----	12	20	29
Engravers' plates, not ground -----	^{1/}	^{1/}	^{1/}
Engravers' plates, ground -----	22	10	20
Tubes and tubing, seamless -----	36	72	^{1/}
Tubes, brazed -----	^{1/}	23	^{1/}

^{1/} No imports.

Source: Official statistics of the U. S. Department of Commerce.

Stat. import classes (1939): 6458.0, 6458.2, 6458.3, 6458.4, 6458.5, 6459.6, 6459.7

United States production, exports, and imports, 1937-39 and 1943

Year	Production <u>1/</u>	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	Canada	
	Quantity (1,000 pounds) <u>2/</u>					
1937 ---	1,150,000	19,617	186	183	1	
1938 ---	n.a.	4,795	469	467	-	
1939 ---	944,000	13,563	385	384	<u>3/</u>	
1943 ---	5,200,000	<u>4/</u> 206,850	<u>5/</u> 14,431	142	14,289	
	Value (1,000 dollars)					
1937 ---	200,000	3,208	68	67	<u>3/</u>	
1938 ---	n.a.	965	128	126	-	
1939 ---	170,000	2,217	130	130	<u>3/</u>	
1943 ---	<u>6/</u> 1,300,000	<u>4/</u> 41,397	<u>5/</u> 2,951	36	2,915	

^{1/} Gross weight and value reported by U. S. Department of Commerce.

^{2/} Copper content. ^{3/} Less than 500.

^{4/} Includes 199,441 thousand pounds, valued at 39,123 thousand dollars exported under lend-lease.

^{5/} Free for Government use 142 thousand pounds, valued at 36 thousand dollars.

^{6/} Estimated.

Source: Production value from the American Bureau of Metal Statistics, except as noted; other data from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
Par. 381	Cents per pound		
Brass:			
Rods, sheets, plates, bars, and strip	4	4)	
Sheets, sheathing, Muntz or yellow metal	4	4)	
Tubes and tubing, seamless	8	^{1/} 4)	Plus 4¢
Tubes, brazed	12	12)	per pound
Angles and channels	12	12)	on copper content ^{2/}
Bronze:			
Rods and sheets	4	4)	
Tubes	8	^{1/} 4)	

UNITED KINGDOM

^{1/} Trade agreement with United Kingdom, effective January 1939.

^{2/} Import-excise tax effective June 1932, imposed under section 3425, Internal Revenue Code.

Note.- See table at end of digest for ad valorem equivalents of duties.

Comment

Brass and bronze mill products have innumerable applications in industry. They are used in the manufacture of ammunition, as antifriction bearing material, in hardware, for the fabrication of essential parts in many machines, etc.

Prewar imports of brass and bronze products were very small compared with domestic production and exports. The United States is the world's largest producer.

BRASS AND BRONZE MILL PRODUCTS-Continued

The tremendous increase in production during the war is attributable largely to the production of brass strip used in the manufacture of ammunition. For peacetime uses these plants will not be capable of sustaining such production, as normal demands call for many types of brass and bronze the single-purpose nature of much of the present equipment cannot be converted to large-scale production of diversified products.

Brass and bronze mill products: United States imports for consumption, by kind, with principal sources, 1939.

Kind	Total value	Principal sources
Brass:		
Rods, sheets, plates, bars, and strip	\$1,301	UNITED KINGDOM, \$1,162
Sheet, sheathing, etc.	167	UNITED KINGDOM, \$167
Tubes and tubing, seamless	20,542	UNITED KINGDOM, \$20,319; Germany, 177
Tubes, bronzed	-	
Angles and channels	-	
Bronze:		
Rods and sheets	91	UNITED KINGDOM, \$88
Tubes	108,248	UNITED KINGDOM, \$108,234

1/ Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

Brass and bronze mill products: Ad valorem equivalent of import duty and excise tax on United States imports for consumption, 1937-39

Item	1937	1938	1939
	Percent	Percent	Percent
	ad valorem	ad valorem	ad valorem
Brass:			
Rods, sheets, plates, bars, and strip	20	29	22
Sheets, sheathing, etc.	23	1/	32
Tubes and tubing, seamless	28	56	31
Tubes, brazed	1/	1/	2/
Angles and channels	1/	1/	2/
Bronze:			
Rods and sheets	17	23	22
Tubes	41	51	28

1/ No imports.

2/ The London price averaged about 27 cents per pound during 1939, hence the ad valorem equivalent of the 16 cent per pound duty would be 60 percent.

Source: Official statistics of the U. S. Department of Commerce.

TIN FOIL

Stat. import class (1939): 679.71

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Germany ^{1/}	Denmark	France	UNITED KINGDOM
Quantity (pounds)							
1937 -	2/3,360,000	n.a.	3,983	1,654	-	2,329	-
1938 -	2/3,584,000	n.a.	1,703	1,663	-	18	5
1939 -	2/3,584,000	n.a.	607	500	73	-	-
1943 -	2/828,800	3/46,364	7	-	-	-	7
Value (dollars)							
1937 -	Not	n.a.	2,615	1,782	-	833	-
1938 -	avail-	n.a.	2,175	2,134	-	21	7
1939 -	able ^{4/}	n.a.	592	504	64	-	-
1943 -		3/27,646	14	-	-	44	14

^{1/} Includes Austria beginning 1938.^{2/} Consumption figures as reported by the American Bureau of Metal Statistics.^{3/} Includes 44,204 pounds valued at \$26,460 exported under lend-lease.^{4/} Estimated at 4 million dollars annually 1937-39, and at 1 million dollars in 1943.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
Par. 382	Percent ad valorem		
Tin foil less than six one-thousandths of 1 inch in thickness -----	35	35	UNITED KINGDOM

Comment

Tin foil is an intermediate product between tin sheet and tin leaf, produced by rolling tin ingots or slabs to the required thinness. It is used for wrapping confectionery and food, and in the manufacture of radio condensers. Formerly tin foil was made from pure tin, but foil made from tin-coated lead has supplanted pure tin for many purposes. Aluminum and lead foils, cellophane, and waxed paper have also been substituted for tin foil for many uses. The high price of tin and its scarcity have led to intensive search for suitable substitutes.

The United States has an important foil industry, a portion of which makes tin foil. Tin foil is a machine-made product and the United States is in a favorable position with respect to manufacturing equipment and technique. The United States is not a tin-producing country, however, and like most of the leading manufacturing countries, is dependent on imports of the raw material. In prewar years, Switzerland and Germany supplied a substantial portion of the world international trade. The United States supplied 80 to 95 percent of Canada's imports, and United States exports to that country (as shown by Canadian import statistics) have been 10 to 20 times as great as total imports into the United States. Prewar imports, which came chiefly from Germany and France, equaled about 0.1 percent or less of domestic production.

TIN FOIL-Continued

During the war, imports of tin almost ceased, and domestic production and consumption of tin manufactures were drastically limited to the most essential uses.

Stat. import classes (1939): 620.71-.80

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from—			
			All countries	Germany <u>1/</u>	Japan	UNITED KINGDOM
Quantity (dozens)						
1937 —	Not avail- able	292,438	1,095	396	36	605
1938 —		210,742	741	265	218	188
1939 —		321,902	265	70	100	12
1943 —		<u>2/</u> 419,754	<u>3/</u> 9	—	—	—
Value (dollars)						
1937 —	<u>4/</u> 44,860,000	920,642	3,700	1,891	61	1,607
1938 —	n.a.	750,837	1,184	663	79	370
1939 —	<u>4/</u> 42,000,000	1,020,078	1,325	867	163	37
1943 —	n.a.	<u>2/</u> 1,074,237	<u>3/</u> 41	—	—	—

^{1/} Includes Austria beginning 1938.^{2/} Includes 10,603 dozen valued at \$39,345 exported under lend-lease.^{3/} Imported from Canada.^{4/} Partly estimated.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
	<u>Per dozen</u>		
Par. 384			
Cabinet locks, not of pin tumbler or cylinder construction:			
Not over 1½ inches wide -----	\$0.70	\$0.70	UNITED KINGDOM
Over 1½, not over 2½ inches wide-	1.00	1.00	do.
Over 2½ inches wide -----	1.50	1.50	do.
Padlocks, not of pin tumbler or cylinder construction:			
Not over 1½ inches wide -----	.35	.35	do.
Over 1½, not over 2½ inches wide-	.50	.50	do.
Over 2½ inches wide -----	.75	.75	do.
Padlocks of pin tumbler or cylinder construction:			
Not over 1½ inches wide -----	1.00	1.00	do.
Over 1½, not over 2½ inches wide-	1.50	1.50	do.
Over 2½ inches wide -----	2.00	2.00	do.
All other locks or latches of pin tumbler or cylinder construction-	2.00	2.00	do.
In addition thereto, on all of the foregoing -----	20% ad val. 20% ad val.		do.
Note.- Total duties paid on imports in 1939 were equivalent to 34 percent ad valorem.			

Comment

Locks are of two general types: (1) warded, which have ridges built into the case that permit the movement of the bolt only when the proper key is used; and (2) tumbler, which have movable pins within the mechanism that must be moved to the

LOCKS—Continued

proper position by the key before the bolt can be actuated. In the first or lever tumbler type the levers or pins are built into the case, whereas in the second or pin tumbler type the tumblers are enclosed in a cylinder and the cylinder is set into the case. The number of tumblers employed in the mechanism determines the efficiency and cost of the lock. Padlocks differ from mortise locks (mortized into the door or drawer) and rim locks (attached to the surface) in that they are detachable and when functioning hang on a staple outside the fastening bow or shackle.

United States lock manufacturers produce a very wide variety of types and quality of locks and latches. Imports, negligible in both quantity and value, have been mostly of very cheap construction. A few specialties have been imported. The United States exports locks to nearly every country in the world.

Locks: United States imports for consumption, ad valorem equivalent of the duties, with principal sources, 1937

Kind	Quantity	Value	Ad valorem: equivalent ^{1/}	Principal sources
	: Dozens :		: Percent :	
Cabinet locks not of pin tumbler or cylinder construction:	:	:	:	:
Not over 1½ inches wide —:	355	\$1,870:	33	: Germany--205 doz., \$1,357; : UNITED KINGDOM--92 doz., : \$430.
Over 1½, not over 2½ inches wide.	627	1,586:	60	: UNITED KINGDOM--502 doz., : \$1,150; Germany--124 doz. : \$431.
Over 2½ inches wide -----:	22	72:	66	: Germany--21 doz., \$66.
Padlocks, not of pin tumbler or cylinder construction:	:	:	:	:
Not over 1½ inches wide —:	32	20:	81	: Japan--26 doz., \$15.
Over 1½, not over 2½ inches wide.	32	42:	24	: Germany--31 doz., \$29.
Over 2½ inches wide -----:	4	8:	58	: China--3 doz., \$5.
Padlocks of pin tumbler or cylinder construction:	:	:	:	:
Not over 1½ inches wide —:	10	9:	40	: Germany--9 doz., \$4.
Over 1½, not over 2½ inches wide.	6	11:	20	: Germany--6 doz., \$4; : France, \$7.
Over 2½ inches wide -----:	3	66:	29	: Japan--2 doz., \$40.
All other locks or latches of pin tumbler or cylinder construction	4	16:	2/	: UNITED KINGDOM--4 doz., : \$16.

^{1/} Does not include duties on imports into the Virgin Islands of the United States.

^{2/} Imported into the Virgin Islands of the United States.

Source: Official statistics of the U. S. Department of Commerce.

**TINSEL PRODUCTS (EXCEPT EMBROIDERIES, LACES, ETC., PAR. 1529(a),
AND CHRISTMAS TREE DECORATIONS, PAR. 1513)**

Stat. import classes (1939): 6882.0, 6882.1, 6882.2, 6883.1, 6883.21

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	FRANCE	Germany ^{1/}	United Kingdom
			Value (dollars) ^{2/}			
1937	n.a.		922,878	817,735	91,430	6,066
1938	n.a.	Negli-	662,384	546,990	110,127	4,375
1939	^{3/} 5,000,000	gible	435,214	368,359	64,586	1,036
1943	n.a.		36,773	2,426	-	25,931

^{1/} Includes Austria beginning 1938. ^{2/} Import values are foreign values, exclusive of duty and transportation charges. ^{3/} Estimated.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
Par 385			
Tinsel wire, made wholly or in chief value of gold, silver, or other metal -----	6¢ per lb.+ 10% ad val.	6¢ per lb.+ 10% ad val.	FRANCE
Lame or lahn, made wholly or in chief value of gold, silver, or other metal -----	6¢ per lb.+ 20% ad val.	6¢ per lb.+ 20% ad val.	do.
Bullions and metal threads made wholly or in chief value of tinsel wire, lame or lahn -----	6¢ per lb.+ 35% ad val.	6¢ per lb.+ 20% ad val. ^{1/}	do.
Beltings and other articles made wholly or in chief value of tinsel wire, metal thread, lame or lahn, or of tinsel wire, lame or lahn and india rubber, bullions, or metal threads, not specially pro- vided for -----	45% ad val.	30% ad val. ^{1/}	do.
Woven fabrics, ribbons, and tassels, made wholly or in chief value of any of the materials provided for in paragraph 385 -----	55% ad val.	40% ad val. ^{1/}	do.

^{1/} Trade agreement with France, effective June 1936.

Note.- The compound rates of duty on 1939 imports had equivalents as follows:
Tinsel wire, 13 percent ad valorem; lame or lahn, 31 percent ad valorem;
bullions and metal threads, 25 percent ad valorem.

TINSEL PRODUCTS (EXCEPT EMBROIDERIES, LACES, ETC., PAR. 1529(a),
AND CHRISTMAS TREE DECORATIONS, PAR. 1513)-Continued

Comment

The United States produces the bulk of its requirements of tinsel products used in the production of coarse varieties of goods such as metallic strings, electric cords, and fabrics for garment linings and draperies.... The finest grades of raw materials and finished goods generally have been imported. Imports of tinsel wire and lahn have come principally from Germany, whereas imports of manufactured articles have come chiefly from France.

The consumption of tinsel for gift-packaging materials and for drapery fabrics tends to increase in periods of high national income. The demand for metallic dress goods varies with changes in style. Consumption of decorative metal products, if style is favorable, will probably increase substantially in the next few years.

During the war imports of tinsel products were drastically reduced and domestic production for civilian use was curtailed. United States exports are not separately recorded but are known to have been small.

Tinsel products: United States imports for consumption, by kinds
and principal sources, 1939

Kind	Total value	Principal sources
Tinsel wire -----	\$1,778	FRANCE, ¹ / ₇ \$1,753; United Kingdom, \$25.
Lame or lahn -----	74,195	Germany, ¹ / ₇ \$62,435; FRANCE, \$11,760.
Bullions and metal threads --	219,097	FRANCE, \$216,969; Germany, ¹ / ₇ \$1,371.
Beltings and other articles -	34,552	FRANCE, \$33,411; Germany, ¹ / ₇ \$1,141.
Woven fabrics -----	105,592	FRANCE, \$104,466.

¹/₇ Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

NICKEL AND NICKEL ALLOYS

Stat. import classes (1939): 6542.0, 6544.3, 6544.5

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Exports (see text)	Imports for consumption from—			
			All countries	CANADA	UNITED KINGDOM	Norway
Quantity (1,000 pounds)						
1937 —	5,000	7,633	81,745	79,389	705	617
1938 —	5,000	11,377	43,956	43,954	218	672
1939 —	5,000	18,979	99,526	97,785	447	1,293
1943 —	7,000	2/17,826	2/185,157	184,266	53	—
Value (1,000 dollars)						
1937 —		2,685	20,306	19,768	281	171
1938 —	Not	2,897	11,025	10,746	31	196
1939 —	avail-	5,076	25,613	24,458	176	371
1943 —	able	2/ 6,905	2/46,625	46,395	28	—

1/ Estimated; includes nickel recovered from scrap.

2/ Includes 6,576 thousand pounds valued at 3,037 thousand dollars exported under lend-lease.

3/ Free for Government use, 4,953 thousand pounds valued at 1,574 thousand dollars.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate 1/	
Par. 381 Nickel:			
Pigs or ingots, shot, cubes, grains, cathodes, or similar forms —————	3¢ per lb.	2½¢ per lb. 2/	CANADA
Bars, rods, plates, sheets, strips, strands, castings, wire, anodes, or electrodes	25% ad val.	25% ad val.	UNITED KINGDOM
Tubes and tubing —————	25% ad val.	12½% ad val. 3/	Do.
Additional duty on any of the foregoing if cold rolled, cold drawn, or cold worked:			
Tubes and tubing —————	10% ad val.	5% ad val. 3/	Do.
Other —————	10% ad val.	10% ad val.	Do.

1/ Duty on nickel scrap suspended for duration of unlimited national emergency by Public Law 497, 77th Congress, effective March 14, 1942.

2/ Trade agreement with Canada, effective January 1939.

3/ Trade agreement with United Kingdom, effective January 1939.

Note.— The duty of 2½ cents per pound on pigs, ingots, etc., was equivalent, on total imports in 1939, to 10 percent ad valorem.

Comment

The principal consumption of nickel is in the manufacture of alloy steels used in the production of automobiles and heavy mechanical equipment. Monel metal (an alloy of nickel and copper) is used in the manufacture of automobiles and of corrosion-resistant equipment for many industries.

NICKEL AND NICKEL ALLOYS - Continued

Since domestic production of primary nickel is negligible, exports consist mostly of imported nickel processed and reexported with benefit of drawback. Export statistics do not include alloys exported in finished automobiles, machinery, and equipment.

In view of the fact that the nickel market is almost wholly controlled by the International Nickel Corporation and that United States production of crude nickel is negligible, the duty on crude nickel must be regarded as largely for revenue.

Nickel and nickel alloys: United States imports for consumption,
by kinds, with principal sources, 1939

Kind	Total value	Principal sources
Pigs, ingot, shot, cubes, grain, cathods, similar forms, and scrap -----	\$24,914,172	CANADA, \$24,458,300; Norway, \$370,341.
Bars, rods, plates, sheets, strip, strand, castings, wire, anodes, and electrodes:	9,217	UNITED KINGDOM, \$1,352; Germany ^{1/} , \$3,983.
Tubes and tubing -----	89,631	UNITED KINGDOM, \$89,423.

^{1/} Includes Austria.

Source: Official statistics of the U. S. Department of Commerce.

BOTTLE CAPS, COLLAPSIBLE TUBES, AND
SPRINKLER TOPS

Stat. import classes (1939): 679.01 and 679.02

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption ^{2/} from—				
			All countries	UNITED KINGDOM	Nether-lands	France	Germany ^{3/}
Quantity (gross)							
1937	8,000,000	Not avail-able	258,365	157,770	25,557	6,286	23,781
1938	n.a.		133,021	82,334	31,889	2,648	4,829
1939	8,000,000		158,758	92,951	31,405	15,199	8,416
1943	n.a.		<u>4/</u> 56,427	4,223	—	—	—
Value (dollars)							
1937	12,000,000	Not avail-able	158,778	110,387	11,449	5,096	13,655
1938	n.a.		96,087	71,973	13,794	1,969	2,870
1939	12,000,000		93,602	63,137	13,671	5,345	5,077
1943	n.a.		<u>4/</u> 35,695	7,351	—	—	—

^{1/} Estimated. ^{2/} Principally bottle caps. ^{3/} Includes Austria beginning 1938.
^{4/} Includes 21,087 gross valued at \$15,115 imported from Mexico and 28,562 gross valued at \$12,736 from Spain.
Source: Official statistics of the U. S. Department of Commerce, except as noted.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u> <u>negotiating</u> <u>country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
	<u>Percent ad valorem</u>		
Par. 390:			
Bottle caps, collapsible tubes, and sprinkler tops:			
Not decorated, enameled, electro- plated or embossed -----	30	1/ 25	UNITED KINGDOM
Decorated, enameled, electroplated or embossed -----	45	1/ 35	UNITED KINGDOM
1/ Trade agreement with the United Kingdom, effective January 1939.			

Comment

Bottle caps referred to in paragraph 390 are made of metal foil for molding or crimping over the corks or other closures of bottles. The metals used are tin, lead, lead-tin alloys, or aluminum. The caps are often used for decorative purposes as well as to help keep the bottle air tight. Some are embossed or colored with lacquer, enamel, or otherwise decorated. This digest does not cover bottle caps made of paper or molded resin which are dutiable in other paragraphs according to the material of chief value, or bottle crowns of sheet metal for use on beer or soft-drink bottles, nor does it cover other types of sheet metal closures for containers which are dutiable as manufactures of metal, n.s.p.f., in paragraph 397. Aluminum foil caps used as sanitary closures for milk bottles are usually formed from sheet or strip foil applied to the bottles at the time of filling and, therefore, do not appear in the trade as bottle caps and are not referred to specifically in this memorandum. They would be dutiable under paragraph 390 if imported.

BOTTLE CAPS, COLLAPSIBLE TUBES, AND
SPRINKLER TOPS—Continued

Collapsible tubes are thin-walled containers of soft metal designed to hold substances having a pasty consistency, such as toilet preparations and oil colors. They are usually made of lead, tin, lead-tin alloy, or aluminum. In some instances the tubes are lacquered or otherwise treated on the inside to prevent direct contact of the contents with the metal. Most of the tubes are lacquered, embossed, or otherwise decorated. Those not so decorated have paper labels applied to them after the tubes are filled.

Sprinkler tops dutiable under paragraph 390 are metal caps made in the form of a nozzle to dispense liquids, such as perfumes, toilet water, and hair tonics, in small quantities.

Official United States production statistics are available only for collapsible tubes, output of which before the war amounted to over 8 million dollars annually. It has been roughly estimated that production of bottle caps and sprinkler tops might be about half that of tubes, but it is impossible to determine output of these items with any degree of accuracy.

Domestic exports are not reported separately, but are known to be small. Some collapsible tubes have been shipped to England, Norway, Sweden, Cuba, Australia, China, and various South American countries, probably largely for packaging domestic products shipped to foreign markets in bulk. About 10 percent of the sprinkler tops produced are claimed to be exported, principally to France, Mexico, and Switzerland. Exports of bottle caps are negligible.

Before the war the leading foreign producers of bottle caps were the United Kingdom, Germany, France, Austria, and the Netherlands; of collapsible tubes, Germany and the United Kingdom; and of sprinkler tops, Germany.

Total imports are small and consist principally of bottle caps. About 90 percent are decorated. Most have trade-names or names imprinted on them, and are shipped to the United States by foreign manufacturers for use in bottling beverages and foods shipped to the domestic market in bulk. The United Kingdom, followed by the Netherlands and Germany, were the principal foreign suppliers before the war. Imports of collapsible tubes, as well as exports, are limited because of high ocean freight rates. Those that are imported are probably for packaging imported preparations put up in the United States. Imports of sprinkler tops are negligible.

Imports by types and sources are shown in the following table for 1939.

Bottle caps, collapsible tubes, and sprinkler tops: United States imports for consumption, by kinds, with principal sources, 1939

Kind	Total		Principal sources
	Value		
Not decorated, enameled, plated, etc.	\$6,528		Netherlands, \$2,592; France, \$2,177; UNITED KINGDOM, \$1,585
Decorated, enameled, plated, etc.	87,074		UNITED KINGDOM, \$61,552; Netherlands, \$11,079; Germany, 1/2 \$3,077

1/ Includes Austria beginning 1938.

Source: Official statistics of the United States Department of Commerce.

ZINC ORE AND CONCENTRATES, BLOCKS, PIGS, AND SLABS,
DUST, SHEETS, PLATED SHEETS (EXCEPT THOSE PLATED
WITH GOLD, SILVER OR PLATINUM), SCRAP, DROSS, AND
SKIMMINGS. (SUMMARY DIGEST)

CANADA

(See separate digests which follow on "Zinc ores and slab zinc," on "Zinc dust,"
on "Zinc sheets" and on "Zinc scrap, dross, and skimmings".)

Stat. import classes (1939): 6557.0, 6558.0, 6558.1, 6558.2, 6559.0, 6559.1, 6559.2

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{2/}	Domestic exports ^{3/}	Imports ^{1/} from —				
			All countries	Mexico	Peru	CANADA	Belgium
	Quantity (short tons zinc content)						
1937	626,362	8,521	41,845	9,126	2,433	6,963	13,446
1938	516,703	4/8,124	13,359	3,952	5,038	2,358	482
1939	583,807	14,359	74,102	35,503	20,676	8,377	5,078
1943	744,196	5/106,466	6/7608,657	212,967	21,902	128,592	-
	Value (1,000 dollars)						
1937	81,678	1,558	4,162	743	147	746	1,451
1938	47,640	4/1,270	966	210	414	163	51
1939	59,782	2,076	3,556	1,364	1,060	484	394
1943	157,025	5/19,322	6/728,367	9,462	1,602	8,597	-

^{1/} Includes imports of ore and slab for smelting, refining, and export.

^{2/} Mine production of zinc in ore.

^{3/} Does not include exports of scrap, dross and skimmings.

^{4/} Does not include exports of zinc sheet.

^{5/} Includes 88,577 short tons valued at \$15,861,000 exported under lend-lease.

^{6/} Free for Government use, 562,980 short tons valued at \$25,716,000, and free
under Public Law 497, 77th Congress, 4,925 short tons valued at \$216,000.

^{7/} Includes 125,244 short tons valued at \$4,060,000 imported from Australia.

Source: Production from official statistics of the U. S. Bureau of Mines; exports
and imports from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Cents per pound of zinc content		

Par. 393

Zinc-bearing ores of all kinds, except
pyrites containing not more than 3
percent zinc.

$1\frac{1}{2}$ $\frac{1}{1-1/5}$
Cents per pound

CANADA

Par. 394

Zinc in blocks, pigs, or slabs -----

$1-3/4$ $\frac{1}{1-2/5}$

do.

Zinc dust -----

$1-3/4$ $\frac{1}{1-2/5}$

do.

Zinc in sheets -----

2 $\frac{2}{2}$

do.

Zinc in sheets coated or plated with

nickel or other metal (except gold,

silver, or platinum), or solutions.

$2-1/4$ $\frac{2}{2-1/4}$

do.

Old and worn out zinc, fit only to be

remanufactured, zinc dross and skim-

mings.

$1\frac{1}{2}$ $\frac{2}{3-1/2}$

do.

^{1/} Rate specified in trade agreement with Canada, effective January 1939. This
rate was superseded by temporary emergency rate in trade agreement with Mexico, ef-
fective January 1943, but will be restored after termination of the emergency under
the terms of the agreement with Mexico. (See table below for temporary emergency
rates.)

^{2/} Post-emergency rates as specified in trade agreement with Mexico. A temporary
emergency rate has been in effect under that agreement, effective January 1943, but
will cease to be effective after the termination of the emergency. (See table below
for temporary emergency rates.)

^{3/} Nonferrous-metal scrap exempt from duty for war emergency period effective
March 1942, Public Law 497, 77th Congress.

ZINC ORE AND CONCENTRATES, BLOCKS, PIGS, AND SLABS, DUST, SHEETS,
 PLATED SHEETS (EXCEPT THOSE PLATED WITH GOLD, SILVER OR
 PLATINUM), SCRAP, DROSS, AND SKIMMINGS (SUMMARY
 DIGEST) - Continued

Note.— The duty on total imports of zinc ore and concentrates in 1939 was equivalent to 62 percent ad valorem; on zinc in blocks, pigs, and slabs, 46 percent ad valorem; on zinc dust, 34 percent ad valorem; on zinc sheets, 34 percent ad valorem; on plated zinc sheets, 7 percent ad valorem; on scrap zinc, 43 percent ad valorem; on dross and skimmings, 47 percent ad valorem.

Comment

The statistics of imports given in the above table cover both the imports for consumption and imports free for smelting, refining, and export. Imports for consumption have accounted for most of the total (in most years, for more than 90 percent). The bulk of the imports in all years have been in the form of ore (or concentrates) and in the form of slab (or blocks and pigs);^{1/} in some years, ore has predominated, and in other years, zinc in slabs has been the most important. Throughout the war-years most of the imports were in the form of ore (see separate digest on zinc ore and slab zinc).

Until 1939, United States imports of zinc in all forms were relatively small compared with total production. Moreover, before that year, most of the zinc imports for consumption were subsequently exported in the form of manufactured products with benefit of draw-back. Beginning in 1939, however, increasingly greater quantities of imported zinc have been consumed in the United States, as domestic mine production has been unable to supply the vastly increased requirements for war needs.

Mexico has, in the past, been the leading supplier of United States zinc import. However, Canada, Australia, and Newfoundland together supplied the major portion of the imports during the war years. The exportable surpluses of these countries probably exceed those of Mexico and other sources outside the British Empire, but it seems likely that Mexico will again supply the major portion of United States imports in the postwar period.

Probably half of the zinc ore produced in the United States is produced by a number of large companies, many of which operate smelters as well as mines. The remainder of the output is produced by hundreds of small independent operators and is smelted on a custom basis by the large smelters. Several of the large domestic companies own or have substantial interests in mines and smelters in foreign countries.

Over a long period the trend of zinc production in the United States has been downward, reflecting the depletion of domestic ore reserves and the decline in the average grade of ore. Before the war the smelter capacity of the United States was considerably in excess of peace-time requirements. The excess smelter capacity is now even greater because of the wartime expansion of plants and facilities. At the same time, the foreign countries (notably Mexico, and Canada), which are large producers of zinc ore, have materially expanded their smelter capacity. In the future, much more than in the past, these countries will try to export zinc metal (zinc slab) rather than zinc ore.

The following table shows the rates of duty on zinc established in the Tariff Act of 1930 and the rates established in the trade agreements with Canada effective January 1939 and with Mexico effective January 1943. The rates provided in the Mexican agreement are for the emergency and will be superseded by the pre-emergency rates (those provided in the Canadian agreement for ore and slab and in the tariff act for scrap, dross and skimmings, and sheet) 30 days after the war emergency has been officially terminated.

^{1/} The term "ore" is used herein to include concentrates and the term "slab zinc" includes zinc in the form of blocks, pigs, and slabs.

ZINC ORE AND CONCENTRATES, BLOCKS, PIGS, AND SLABS, DUST, SHEETS,
PLATED SHEETS, (EXCEPT THOSE PLATED WITH GOLD, SILVER OR
PLATINUM), SCRAP, DROSS, AND SKIMMINGS (SUMMARY
DIGEST) - Continued

Tariff Act or trade agreement	: Tariff rate (cents per pound of zinc content)					
	: Reduc-	: Slab zinc:	: Scrap,	: Zinc	: Plated	
	: tion :	: Ore :	: and :	: dross and:	: sheet :	: zinc
	: :	: zinc dust:	: skimmings:	: not plated:	: sheet	
	: Percent:	:	:	:	:	:
Tariff Act of 1930 -----	: 1-1/2:	1-3/4	: 1-1/2	1/	2	: 2-1/4
Trade agreement with Canada,	: :	:	:	:	:	:
1939 -----	: 20 :	1-1/5:	1-2/5	: 2/	: 2/	: 2/
Trade agreement with Mexico,	: :	:	:	:	:	:
1943 (These rates will be	: :	:	:	:	:	:
superceded by pre-emergency	: :	:	:	:	:	:
rates 30 days after war emer-	: :	:	:	:	:	:
gency is declared ended) ----	: 50 :	3/4 :	7/8	: 3/4	1/	: 1
	: :	:	:	:	:	: 1-1/8

1/ Nonferrous metal scrap imported free under Public Law 497, 77th Congress, effective March 1942, for duration of the emergency.

2/ Not reduced nor bound.

The duty on the zinc content of ore ($1\frac{1}{2}$ cents per pound) provided in the tariff act was about six-sevenths of that on slab zinc ($1\frac{3}{4}$ cents per pound). The differential in the duties (approximately 15 percent) about compensated for metallurgical losses in converting ore to slab and, therefore, did not expressly provide any tariff protection on domestic smelter operations. Under the Canadian agreement the differential in the duty on zinc in ore ($1\frac{1}{5}$ cents per pound) and the duty on slab zinc ($1\frac{2}{5}$ cents per pound) is also about 15 percent). A greater differential in the duties on zinc in ore and slab zinc would tend to encourage the imports of zinc ore rather than of slab zinc.

The duty on slab zinc provided in the tariff act ($1\frac{3}{4}$ cents per pound) was about seven-eighths of the duty on unplated zinc sheet (2 cents per pound), a differential of $12\frac{1}{2}$ percent. (The differential on plated sheet was 22 percent.) The differentials in the rates under the Canadian trade agreement (which reduced the rate on slab zinc but not on zinc sheet) were 30 percent on unplated sheet and 38 percent on plated sheet. As the material losses in making zinc sheet from slab are negligible, the higher duties on sheet contain an appreciable element of protection for the domestic processing of sheets. The imports of zinc sheet have always been small compared to the imports of slab and the increase in the differential in the duties on slab zinc and on sheet will probably result in practically no imports of the latter.

United States imports of zinc in various forms in 1939, together with the principal sources, are shown below.

Zinc: United States imports for consumption and imports
free for smelting, refining and export, by kind,
with principal sources, 1939

Kind	: Total :		Principal sources
	: foreign	:	
	: value	:	
Ores and concentrates:	:	:	
For consumption -----	: \$1,304,433	:	Peru, \$940,945; Mexico, \$301,547;
	:	:	: CANADA, \$40,883.
For smelting, refining, and export -	: 305,888	:	Mexico, \$186,495; Peru, \$119,023.
Blocks, pigs, and slabs:	:	:	
For consumption -----	: 1,890,236	:	Mexico, \$871,588; CANADA, \$426,612;
	:	:	: Belgium, \$362,965.
For smelting, refining, and export -	: 14,719	:	Belgium, \$12,996; Mexico, \$1,723.

Stat. import classes (1939): 6557.0, 6558.2

United States production, exports, and imports, 1935-43

	Production			Exports		Imports <u>1/</u> from--							
	Mine pro- duction of recoverable zinc in ore	Smelter production from domestic and foreign ore	Secondary zinc (redis- tilled)	Ore (zinc content)	Slab	All countries		Mexico		CANADA		Peru	
						Ore (zinc content)	Slab	Ore (zinc content)	Slab	Ore (zinc content)	Slab		
Quantity (short tons <u>2/</u>)													
1935	517,903	420,634	28,650	461	1,617	11,260	4,444	11,068	2,935	124	399	63	
1936	575,574	492,132	42,209	245	37	1,973	11,660	1,928	6,869	20	1,204	20	
1937	626,362	556,904	51,554	314	249	3,497	37,369	987	8,117	4	6,861	2,433	
1938	516,703	446,341	31,613	135	<u>4/</u> 5,736	5,393	7,580	229	3,696	-	2,332	4,979	
1939	583,807	507,236	50,428	303	4,515	42,351	31,112	18,942	16,541	1,573	6,402	20,676	
Average, 1935-39	564,070	484,649	40,891	292	2,431	12,895	18,433	6,631	7,632	344	3,440	5,634	
1940	665,068	675,275	48,917	448	79,091	108,538	10,146	62,891	2,647	21,217	6,877	14,257	
1941	749,125	822,020	59,503	-	89,309	<u>5/</u> 234,444	40,288	120,311	31,294	31,479	7,236	35,498	
1942	768,025	891,872	53,195	<u>6/</u>	<u>133,938</u>	<u>7/</u> 379,946	<u>8/</u> 36,352	174,238	34,603	82,331	1,749	35,287	
1943	744,196	942,309	48,215	1	<u>2/</u> 97,440	<u>10/</u> 547,228	<u>11/</u> 56,155	167,508	45,344	115,046	8,570	21,902	
Average, 1940-43	731,604	832,869	52,458	112	99,944	317,539	35,735	131,237	28,472	62,518	6,108	26,736	
Value (1,000 dollars)													
1935	44,840	36,418	2,481	11	84	557	270	549	176	5	22	2	
1936	56,418	48,249	4,198	6	5	85	770	82	400	2	94	1	
1937	81,678	72,620	6,722	10	26	188	<u>2/</u> 3,867	36	703	<u>6/</u> -	735	147	
1938	47,743	41,153	2,921	6	<u>4/</u> 908	428	498	12	195	-	161	409	
1939	59,782	51,941	5,164	11	479	1,610	1,905	488	873	41	427	1,060	
Average, 1935-39	58,092	50,076	4,285	9	300	574	1,462	233	469	10	288	324	
1940	84,264	85,571	6,199	42	9,103	2,855	801	1,461	166	620	584	525	
1941	111,979	122,892	8,896	-	12,712	<u>5/</u> 7,191	3,662	3,117	2,509	1,864	788	1,066	
1942	138,091	155,186	9,564	<u>12/</u>	22,829	<u>7/</u> 16,224	<u>8/</u> 2,924	5,245	2,674	5,676	251	2,523	
1943	157,025	162,756	10,173	<u>12/</u>	<u>9/</u> 17,168	<u>10/</u> 22,296	<u>11/</u> 5,826	5,362	4,097	6,944	1,425	1,502	
Average, 1940-43	122,840	131,601	8,708	11	15,453	12,141	3,303	3,796	2,361	3,776	762	1,429	

1/ Includes relatively small imports of ore free for smelting, refining, and export.

2/ Import and export quantities of ore represent zinc content.

3/ Includes 12,658 short tons valued at 1,364 thousand dollars imported from Belgium.

4/ Classified as "Cast in slabs, plates, or blocks, rolled in sheets and strips, and as scrap or in other forms."

5/ Free for Government use, 56,475 short tons valued at 1,362 thousand dollars.

6/ Less than one-half short ton.

7/ Free for Government use, 227,387 short tons valued at 8,712 thousand dollars of which 32,212 short tons valued at 1,071 thousand dollars were exported from Australia.

8/ Free for Government use, 20,512 short tons valued at 1,686 thousand dollars.

9/ Includes 83,260 short tons valued at 14,736 thousand dollars exported under lend-lease.

10/ Free for Government use, 508,620 short tons valued at 20,081 thousand dollars, of which 122,202 short tons valued at 3,657 thousand dollars were imported from Australia.

11/ Free for Government use, 54,293 short tons valued at 5,631 thousand dollars.

12/ Less than 500 dollars.

Source: Production from official statistics of the U. S. Bureau of Mines; exports and imports from official statistics of the U. S. Department of Commerce.

a/ As used in this digest zinc ore includes concentrates; slab zinc includes zinc in blocks and pigs.

ZINC ORE AND SLAB ZINC-Continued

<u>Item</u>	<u>United States tariff</u>		<u>Proposed negotiating country</u>
	<u>Act of 1930</u>	<u>1945 rate</u>	
	<u>Cents per pound of zinc content</u>		
Par. 393			
Zinc-bearing ores of all kinds, except pyrites containing not more than 3 percent zinc	1 1/2¢	1/ 1-1/5¢	CANADA
Par. 394			
Zinc in blocks, pigs, or slabs	1-3/4¢	2/ 1-2/5¢	do.

1/ Reduced to 1-1/5 cents per pound in Canadian trade agreement effective January 1939, and to emergency rate of 3/4 cent per pound in the Mexican trade agreement effective January 1943. This rate reverts to 1-1/5 cents per pound 30 days after war emergency is declared at an end.

2/ Reduced to 1-2/5 cents per pound in Canadian agreement effective January 1939 and to emergency rate of 7/8 cent per pound in the Mexican trade agreement effective January 1943. This rate reverts to 1-2/5 cents per pound 30 days after war emergency is declared at an end.

Note.- The duty on total imports of zinc in ore in 1939 was equivalent to 62 percent ad valorem; on total imports of slab zinc in 1939, the duty was equivalent to 46 percent ad valorem.

Comment

The imports given in the table at the beginning of this text include both the imports entered for consumption and the imports free of duty for smelting, refining, and export. The two tables which follow show separately for zinc ore and slab the imports for consumption and the imports free for processing and export. It should be noted that before 1939 a substantial part of the zinc imported for consumption was subsequently exported in the form of finished products with benefit of draw-back.

Zinc ore, and slab zinc 1/ (dutiabie): United States imports for consumption, by principal sources, 1935-43

Year	All countries		Mexico		CANADA		Belgium		Peru	
	Ore	Slab	Ore	Slab	Ore	Slab	Ore	Slab	Ore	Slab
Quantity (short tons—zinc content)										
1935	6,921	4,444	6,859	2,935	<u>2/</u>	399	-	-	60	-
1936	853	11,660	812	6,869	20	1,204	-	228	17	-
1937	3,345	37,208	942	7,956	4	6,861	-	12,658	2,394	-
1938	4,859	7,230	225	3,346	-	2,332	-	286	4,631	-
1939	33,503	30,960	12,279	16,506	1,573	6,402	-	4,790	18,497	-
Average,										
1935-39	9,896	18,300	4,224	7,523	319	3,440	-	3,592	5,120	-
1940	44,637	10,146	19,302	2,647	10,360	6,877	-	336	5,627	-
1941	<u>3/</u> 154,520	<u>3/</u> 40,288	67,850	31,294	22,873	7,236	-	-	27,075	48
1942	<u>4/</u> 269,860	<u>4/</u> 36,352	127,373	34,603	33,989	1,749	-	-	28,504	-
1943	<u>5/</u> 516,646	<u>5/</u> 56,155	166,045	45,344	87,967	8,570	-	-	21,902	-
Average,										
1940-43	246,416	35,735	95,144	23,472	38,798	6,108	-	84	20,777	12
Value (1,000 dollars)										
1935	363	270	361	176	<u>4/</u>	22	-	-	2	-
1936	39	770	36	400	2	94	-	14	1	-
1937	177	3,853	34	689	<u>4/</u>	735	-	1,364	144	-
1938	392	480	12	178	-	161	-	30	381	-
1939	1,304	1,890	302	871	41	427	-	363	941	-
Average,										
1935-39	455	1,453	149	463	9	288	-	354	294	-
1940	1,108	801	416	166	241	584	-	28	258	-
1941	<u>3/</u> 4,596	<u>3/</u> 3,662	1,616	2,509	1,284	788	-	-	762	4
1942	<u>4/</u> 10,403	<u>4/</u> 2,924	3,913	2,674	1,664	251	-	-	2,286	-
1943	<u>5/</u> 20,476	<u>5/</u> 5,826	5,338	4,097	5,412	1,425	-	-	1,602	-
Average,										
1940-43	9,146	3,303	2,820	2,361	2,150	762	-	7	1,227	1

1/ Zinc ore includes concentrates; slab zinc includes zinc in blocks and pigs.

2/ Less than one-half ton.

3/ Free for Government use: Ore, 56,475 short tons valued at 1,362 thousand dollars, principally from Mexico, Argentina, Spain, and Chile; slab, 93 short tons valued at 12 thousand dollars from Mexico.

4/ Free for Government use: Ore, 227,387 short tons valued at 8,712 thousand dollars; slab, 20,512 short tons valued at 1,686 thousand dollars.

5/ Free for Government use: Ore, 508,620 short tons valued at 20,081 thousand dollars, principally from Mexico, Canada, Australia, and Argentina; slab, 54,293 short tons valued at 5,631 thousand dollars, principally from Mexico and Canada.

Source: Official statistics of the U. S. Department of Commerce.

Zinc ore and slab zinc ^{1/}: United States imports free for smelting, refining, and export

Year	All countries:		Mexico		Peru		CANADA		Belgium	
	Ore	Slab	Ore	Slab	Ore	Slab	Ore	Slab	Ore	Slab
Quantity (short tons--zinc content)										
1935	4,339	-	4,209	-	3	-	124	-	-	-
1936	1,120	-	1,116	-	3	-	-	-	-	-
1937	152	161	45	161	39	-	-	-	-	-
1938	534	350	4	350	348	-	-	-	-	-
1939	8,848	152	6,663	35	2,179	-	-	-	-	118
Average, 1935-										
39	2,999	133	2,407	109	514	-	25	-	-	24
1940	63,901	-	43,589	-	8,630	-	10,857	-	-	-
1941	79,924	-	52,461	-	8,423	-	8,601	-	-	-
1942	110,086	-	46,860	-	6,783	-	48,342	-	-	-
1943	2/30,582	-	1,463	-	-	-	27,079	-	-	-
Average, 1940-										
43	71,123	-	36,093	-	5,959	-	23,720	-	-	-
Value (1,000 dollars)										
1935	194	-	188	-	3/	-	5	-	-	-
1936	46	-	46	-	2/	-	-	-	-	-
1937	11	14	2	14	3	-	-	-	-	-
1938	36	18	2/	17	28	-	-	-	-	-
1939	306	15	186	2	119	-	-	-	-	13
Average, 1935-										
39	119	9	84	6	30	-	1	-	-	3
1940	1,747	-	1,045	-	267	-	379	-	-	-
1941	2,595	-	1,501	-	304	-	580	-	-	-
1942	5,821	-	1,332	-	237	-	4,012	-	-	-
1943	2/1,820	-	24	-	-	-	1,532	-	-	-
Average, 1940-										
1943	2,995	-	976	-	202	-	1,626	-	-	-

^{1/} Zinc ore includes concentrates; slab zinc includes zinc in blocks and pigs.

^{2/} Includes imports from Newfoundland and Labrador amounting to 1,053 short tons valued at 157 thousand dollars.

^{3/} Less than \$500.

Source: Official statistics of the U. S. Department of Commerce.

ZINC ORE AND SLAB ZINC-Continued

Comment

Zinc ore is normally concentrated at or near the mine before being sold or smelted, the resultant concentrate usually containing from 40 to 60 percent zinc. Most of the zinc-bearing minerals in ore deposits throughout the world occur in combination with other metallic ore minerals, chiefly those of lead, copper, silver, and occasionally gold. The production of zinc ore in any given mine, therefore, may depend in part on the existing market for the associated metals.

During the 1935-39 period, 60 percent of the zinc consumed in the United States went into the galvanizing of iron and steel products and into brass making, 20 percent was consumed in the production of rolled zinc products and die castings, and the remainder, both ore and metal, was used in the pigment, chemical, and other miscellaneous industries. Consumption in the war years increased generally in all use categories, but was most marked in the brass making industry because of requirements for ammunition (see following table).

Zinc: United States average annual consumption by principal uses, 1935-39 and 1940-43

(Short tons-zinc content)

Principal uses	1935-39	1940-43
Galvanizing -----	233,300	298,046
Brass making -----	147,000	307,059
Rolled zinc -----	55,500	69,576
Die castings -----	69,500	105,705
Pigments and salts -----	88,000	122,000
Miscellaneous -----	37,200	23,644
Total -----	630,500	926,030

Source: U. S. Bureau of Mines, Minerals Yearbook.

United States production of zinc ore averaged approximately 725,000 short tons (recoverable zinc content) annually in the period 1925-29, the highest peacetime rate of production ever attained by the industry. During the late war mine production reached its high point of over 765,000 tons (in 1942) but has since declined (610,000 tons in 1945) despite the payment of Government subsidies (see below). Most of the decline occurred in the Tri-State area (Oklahoma, Kansas, and Missouri) which supplied about half of the domestic zinc before the 1929 depression but provided only about 30 percent during the 1940-45 period. This decrease was in part made up by increased production from the Western States which accounted for about 45 percent of the total domestic wartime output.

The United States average annual smelter production of primary slab zinc during the war, from both domestic and foreign ores was approximately double that of the 1935-39 period, most of the increase resulting from greatly increased use of foreign ore. The recovery of redistilled secondary (scrap) zinc increased nearly 30 percent during the war. United States smelter capacity, which before the war exceeded domestic mine producing capacity, was increased in the war years by an additional 30 percent, through modernization and expansion of existing plant facilities and by completion of a new 30,000-ton smelter at Corpus Christi, Texas. In part this expansion was financed by the Government, which owns some of the new facilities but not the Corpus Christi plant.

Most of the foreign countries producing zinc ore have some smelter facilities. Burma, Bolivia, and Peru, all important producers are, however, entirely without smelters. Belgium, the United Kingdom, France, and the Netherlands have large smelter capacity but have no appreciable zinc ore deposits.

ZINC ORE AND SLAB ZINC-Continued

Until 1935 the United States had ordinarily been a small net exporter of zinc. After 1935, largely because of increased consumption and a decline in the grade of domestic ore, imports of ore and slab increased and this country became a net importer. With the outbreak of the war in Europe in 1939 this trend was greatly accelerated partly because ore which usually went to Europe was diverted to the United States. Imports reached a record height of over 600,000 short tons, in 1943, constituting about 55 percent of estimated United States consumption compared with an average of about 3 percent in prewar years. Because of decreasing reserves of high grade ore and the general wartime shortage of manpower, domestic mine production was unable to satisfy the vastly increased requirements resulting from our own war needs as well as those of our allies.

Zinc ore imported for consumption before World War II usually was less than 2 percent of the zinc ore mined in the United States. A large part of the imports of ore and slab were produced in foreign countries, chiefly Mexico, by American-controlled concerns. During the war the zinc produced from foreign ores accounted for about 30 percent of total domestic smelter production, all of which was used to meet the great wartime demand for the metal either directly or in the strategic metal stockpile. Average imports of ore in the 1940-43 period increased about 25 times over those of 1935-39, with Mexico, Canada, and Australia supplying about 75 percent of the total.

For a few years immediately before the war the United States market price of zinc (prime western grade) was approximately equal to the world price plus the import duty, varying from an average of 4.33 cents per pound East St. Louis in 1935 to 7.48 cents in 1941. In October 1941, a maximum price of 8.25 cents per pound East St. Louis was established by voluntary agreement between the zinc producers and the Office of Price Administration, and this price became the official ceiling price in January 1942. However, only part of the domestic output has been produced at the official ceiling. Since early in 1942 the Government has been paying direct subsidies to mines through the Premium Payment Plan and, between July 1944 and December 1945, also to certain smelters. The portion of the United States mine output subsidized increased from about 30 percent of total production in 1942 to about 55 percent in 1943 and to about 66 percent in 1945. The average price for all zinc produced in the United States increased accordingly from about 9 cents per pound in 1942 to 10½ cents in 1943 and to 11¼ cents in 1945.

The postwar demand for zinc in the United States is likely to at least equal that of prewar years and during the next 2 or 3 years may even exceed the average annual wartime consumption. United States mine production, on the other hand, has shown a downward tendency during recent years despite the payment of direct subsidies. It would thus appear that the long-time trend towards depletion of deposits of zinc in the United States and the accompanying decline in the average grade of ore mined has been accentuated during the war. Future domestic production, therefore, will probably not be able to react as readily to increases in demand or advances in price as it did before the war.

Zinc: United States imports, by kinds, with principal sources, 1939

Kind	Total value	Principal sources
Zinc ore and concentrates:		
For smelting, refining, and export -----	\$305,888	Mexico, \$186,495; Peru, \$119,023.
For consumption -----	1,304,433	Peru, \$940,945; Mexico, \$301,547; CANADA, \$40,883.
Zinc blocks, pigs, and slabs:		
For smelting, refining and export -----	14,719	Belgium, \$12,996; Mexico, \$1,723.
For consumption -----	1,890,236	Mexico, \$871,588; CANADA, \$426,612; Belgium, \$362,965.

Source: Official statistics of the U. S. Department of Commerce.

ZINC ORE AND SLAB ZINC-Continued

The differential in the duties established in the Canadian trade agreement on the zinc content of ore ($1 \frac{1}{5}$ cents per pound) and on slab zinc ($1 \frac{2}{5}$ cents per pound) is about 15 percent. This differential about compensates for the metallurgical losses in converting ore to slab zinc and, therefore, does not expressly provide any tariff protection on smelting operations in this country. The United States during the war relied upon foreign sources of supply of an increasingly large proportion of its zinc requirements.

ZINC SCRAP, DROSS, AND SKIMMINGS

Stat. import class (1939): 6558.0 and 6558.1

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from--			
			All countries	CANADA	Belgium	
Quantity (short tons)						
1937 ----	234,034	Not avail- able	2/ 678	98	560	
1938 ----	144,831		3/ 96	15	-	
1939 ----	189,640		4/ 420	400	-	
1943 ----	368,488		5,168	4,869	-	
Value (1,000 dollars)						
1937 ----	n.a.	Not avail- able	2/ 70	9	60	
1938 ----	n.a.		3/ 9	1	-	
1939 ----	19,723		4/ 17	17	-	
1943 ----	60,801		227	210	-	

1/ Zinc recovered from secondary sources.
2/ Includes 59 short tons valued at six thousand dollars imported from Peru.
3/ Includes 217 short tons valued at 3 thousand dollars imported duty-free for smelting, refining, and export.
4/ Includes imports free under Public Law 497, 77th Cong., amounting to 5,105 short tons valued at 225 thousand dollars and small amounts of imports duty-free for Government use and for smelting, refining, and export.
Source: Production from official statistics of the U. S. Bureau of Mines; imports from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Cents per pound		

Par. 394
Old zinc for remanufacture, dross, and skimmings ----- 1½ 1/ 2/ 1½ CANADA
1/ Reduced to emergency rate of 3/4¢ per pound in the trade agreement with Mexico effective January 1943. Reverts to 1½¢ per pound 30 days after war emergency is declared at an end.
2/ Nonferrous metal scrap exempt from duty for war emergency period effective March 1942, Public Law 497, 77th Congress.
Note.- The ad valorem equivalent of the duty on scrap zinc in 1939 was 43 percent, on dross and skimmings, 47 percent.

Comment

Zinc scrap is derived from a variety of sources such as clippings, engraving plates, discarded die castings, and dry-cell-battery cases. Zinc dross is the sludge recovered from galvanizing pots, and skimmings are the impurities removed from the surface of the molten zinc during galvanizing operations. Secondary zinc metal is recovered by remelting and refining or redistilling scrap, dross, and skimmings. Dross and skimmings are also used directly in the manufacture of pigments and zinc dust.

ZINC SCRAP, DROSS AND SKIMMINGS--Continued

The Tariff Act of 1930 established a rate of $1\frac{1}{2}$ cents per pound on zinc ore and a rate of $1\frac{1}{2}$ cents per pound on scrap, dross, and skimmings. In the Canadian trade agreement, effective January 1, 1939, the duty on zinc in ore was reduced to $1-1/5$ cents per pound but the duty on scrap, dross and skimmings remains at $1\frac{1}{2}$ cents per pound. Considering the processes and costs involved in treating zinc ore and dross and skimmings there is little to be said for having a higher duty on the latter than on the former. It is not illogical, however, for the duty on scrap to be somewhat higher than the rate on zinc in ore or on dross and skimmings.

United States imports of zinc scrap, dross, and skimmings have never supplied more than a small part of the domestic consumption of zinc metal. Except for Canada, few, if any, foreign countries have significant quantities of these products available for export.

Stat. import class (1939): 6559.2

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	Belgium	United Kingdom	CANADA
Quantity (short tons)						
1937 ---	15,242	2,145	1/ 69	30	11	-
1938 ---	11,609	2,253	2/ 64	23	6	-
1939 ---	16,835	2,834	4/ 41	40	1	-
1943 ---	25,990	3/ 5,859	4/ 106	-	-	106
Value (1,000 dollars)						
1937 ---	2,588	418	1/ 6	3	1	-
1938 ---	1,543	356	2/ 5	1	1	-
1939 ---	2,368	469	3/ 3	3	5/	-
1943 ---	5,171	3/ 1,263	4/ 18	-	-	18

- 1/ Includes 22 short tons valued at 2 thousand dollars imported from Poland and Danzig.
- 2/ Includes 35 short tons valued at 3 thousand dollars imported from Poland and Danzig.
- 3/ Includes 5,016 short tons valued at 1,054 thousand dollars exported under lend-lease.
- 4/ Includes 26 short tons valued at 2 thousand dollars imported duty-free under Public Law 497, 77th Congress.
- 5/ Less than \$500.
- Source: Production from official statistics of the U. S. Bureau of Mines; exports and imports from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Cents per pound		
Par. 394			
Zinc dust -----	1-3/4	1/ 1-2/5	CANADA
1/ Reduced to 1-2/5¢ per pound in Canadian trade agreement effective January 1939 and to an emergency rate of 7/8¢ in Mexican trade agreement effective January 1943, which rate reverts to 1-2/5¢ 30 days after war emergency is declared at an end.			
Note.- The ad valorem equivalent of the duty on zinc dust in 1939 was 34 percent.			

Comment

Zinc dust is a finely divided gray metallic powder which is widely used in metal primers and other metal-protective paints. It is also used in sherardizing (a process allied to galvanizing), as a deoxidizing agent in chemical manufacture, and as a precipitant in the cyanide process of extracting gold from its ores.

Zinc dust is "atomized" from molten zinc by causing a tiny stream of metal to impinge on a high pressure current of air. It is also made by a distillation process (in which case it is called blue powder) and by direct treatment of zinc ore. Zinc dust carries from 85 to 98 percent zinc.

ZINC DUST-Continued

The United States is a large net exporter of zinc dust. Most of the shipments go to countries where it is used in the extraction of gold. In the prewar period there was little variation in the quantity exported, since gold recovery was not greatly affected by the depression. Prewar imports were equivalent to only a small fraction of 1 percent of United States production.

The duty of $1\frac{2}{5}$ ¢ per pound on zinc dust is the same as that on other metallic zinc except scrap, dross, and skimmings. The present differential between the duties on zinc dust and on zinc ore is $\frac{1}{5}$ cent per pound; under the act of 1930 it was $\frac{1}{4}$ cent per pound.

ZINC SHEETS

Stat. import classes (1939): 6559.0 and 6559.1

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports ^{1/}	Imports for consumption from--				
			All countries	Belgium	Mexico	Nether-lands	CANADA
	Quantity (short tons)						
1937 -	63,774	5,813	232	198	22	-	10
1938 -	n.a.	n.a.	226	172	26	11	11
1939 -	60,998	6,419	178	130	20	21	1
1943 -	n.a.	^{2/} 2,281	^{3/}	-	-	-	^{3/}
	Value (1,000 dollars)						
1937 -	12,342	1,104	31	24	4	-	2
1938 -	n.a.	n.a.	26	19	3	1	1
1939 -	10,027	1,052	21	15	2	2	^{4/}
1943 -	n.a.	^{2/} 624	^{4/}	-	-	-	^{4/}

^{1/} Includes strips.^{2/} Includes 301 tons valued at 71 thousand dollars exported under lend-lease.^{3/} Less than one-half ton.^{4/} Less than \$500.

Source: Production from official statistics of the U. S. Bureau of Mines; imports from official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed negotiating country</u>
	<u>Act of 1930</u>	<u>1945 rate</u>	
	<u>Cents per pound</u>		
Par. 294			
Zinc sheets -----	2	<u>1/ 2</u>	CANADA
Zinc sheets coated or plated with nickel or other metal (except gold, silver, or platinum) or solutions	2-1/4	<u>2/ 2-1/4</u>	do.
<u>1/</u> A temporary rate of 1¢ per pound, was established in the trade agreement with Mexico, effective January 1943, which reverts to 2¢ per pound 30 days after the war emergency is declared at an end.			
<u>2/</u> A temporary rate of 1-1/8¢ per pound was established in the trade agreement with Mexico, effective January 1943, which reverts to 2-1/4¢ per pound 30 days after the war emergency is declared at an end.			
Note.- The ad valorem equivalent of the duty of 2¢ per pound on total imports of unplated zinc sheets in 1939 was 34 percent; the ad valorem equivalent of the 2-1/4¢ duty on plated zinc sheets was 7 percent.			

Comment

Thin sheet zinc is used for the containers of dry cell batteries, for Mason jar covers, for photo-engraving sheets, and in automobile manufacture. So-called "boiler plates" of heavy sheet (1/10 inch or more in thickness) are used in marine work, both on the inside of boilers and at openings in the hull to inhibit the attack of salt water on the iron or steel parts.

ZINC SHEETS-Continued

The United States, at least since 1915, ^{1/} has been a net exporter of zinc sheet with annual exports ranging from a maximum of 18,000 tons in 1919 to a low of 2,000 tons in 1921. Average exports for the prewar (1935-39) period amounted to approximately 5,000 tons a year, consisting principally of unplated sheets. Imports of unplated zinc sheet, mainly from Belgium, prior to 1935 were practically nil and since that year have amounted annually to considerably less than one-half of 1 percent of United States consumption. Imports of plated zinc sheet in the 1937-39 period were less than 1 ton per year and came entirely from Germany.

As the result of the fact that the Canadian agreement of 1939 reduced the duty on slab zinc but not that on sheets, the post-emergency tariff rate on unplated zinc sheet (2 cents per pound) exceeds the post-emergency rate on slab zinc ($1\frac{2}{5}$ cents per pound) by $\frac{6}{10}$ cent per pound, a differential of 30 percent. The post-emergency rate on plated sheet ($2\frac{1}{4}$ cents per pound) exceeds the post-emergency rate on slab zinc by $\frac{8}{10}$ cent per pound, a differential of about 38 percent. These differentials in the post-emergency rates compare with differentials in the duties on sheet and slab provided in the Tariff Act of 1930 of $12\frac{1}{2}$ percent and 22 percent, respectively. As the material losses in converting zinc slab to zinc sheet are very small or negligible, the higher duties on sheet even of the 1930 act contained an appreciable element of protection for domestic processors. Imports of zinc sheet were small compared with the imports of slab under the differentials provided in the Tariff Act of 1930. Under the higher differentials in the post-emergency rates the imports of zinc sheet will undoubtedly be insignificant in relation to the imports of slab.

^{1/} Separate statistics prior to 1915 unavailable.

PRINT BLOCKS AND PRINT ROLLERS

UNITED KINGDOM

(Embossing rollers of steel or other metal, dutiable at 30 percent ad valorem, under the same paragraph, are not included)

Stat. import classes (1939): 679.37; 679.381, 679.382.

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from—			
			All countries	Germany <u>1/</u>	Canada	UNITED KINGDOM
	Quantity (number)					
1937 ———	Net avail- able	Net avail- able <u>2/</u>	105	100	—	5
1938 ———			87	73	—	14
1939 ———			47	40	6	1
1943 ———			—	—	—	—
	Value (dollars)					
1937 ———	Estimated 1,000,000 annually <u>3/</u>	Net avail- able <u>2/</u>	5,703	5,653	—	50
1938 ———			7,737	7,439	—	298
1939 ———			2,190	2,027	130	33
1943 ———			—	—	—	—

1/ Includes Austria beginning 1938. 2/ Small, but probably exceed imports.

3/ Probably minimum figure.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

ItemUnited States tariff
Proposed
negotiating
country
Act of
1930 1/
1945
rate 1/

Par. 395

Print rollers, of whatever material composed, with raised patterns of brass or brass and felt, finished or unfinished, used for printing, stamping, or cutting designs ———

\$5 ea. + \$5. ea. +
72% ad val. 72% ad val.

UNITED KINGDOM

Print blocks, and print rollers, n.s.p.f., of whatever material composed, used for printing, stamping, or cutting designs:

Used print blocks ——— 60% ad val. 40% ad val. 2/
Other ——— 60% ad val. 60% ad val.

UNITED KINGDOM

do.

1/ These rates apply whether the articles are imported separately, or as parts of machines.

2/ Trade agreement with the United Kingdom, effective January 1939.

Note.— The ad valorem equivalent of the duty on print rollers with raised patterns of brass or brass and felt was 76 percent in 1938.

Comment

Print blocks and print rollers with raised patterns of brass or brass and felt are used in printing or stamping designs on wallpaper, linoleum, oil cloth, and other materials. Rollers with raised designs of steel are used in cutting out wallpaper or other borders.

Domestic production represents the combined output of 25 or more wallpaper mills, which make rollers for their own use, and of print-roller shops which make rollers or blocks for manufacturers of wallpaper and other products.

PRINT BLOCKS AND PRINT ROLLERS-Continued

Prewar imports came principally from Germany, where intricate and exclusive designs originated in large print-cutting shops, from France, and from the United Kingdom. Design is an important factor in import trade. Many of the imported rollers and blocks consisted of the more elaborate and expensive types that could be executed more cheaply abroad, while the more standardized designs could usually be supplied more expeditiously by domestic concerns.

MISCELLANEOUS MANUFACTURES OF BASE METALS,
N.S.P.F. (SUMMARY DIGEST)Stat. import classes (1939): Various a/

United States production, exports, and imports, 1937-39 and 1943

	1937	1938	1939	1943
	Value (1,000 dollars)			
Production <u>1/</u> -----	n.a.	n.a.	n.a.	n.a.
Exports <u>1/</u> -----	n.a.	n.a.	n.a.	n.a.
Imports for consumption from:				
Total, all countries -----	3,302	2,670	1,951	<u>2/</u> 2,469
Japan -----	1,321	984	787	7
Germany <u>3/</u> -----	889	692	336	<u>4/</u>
UNITED KINGDOM -----	358	233	169	341
France -----	157	137	153	<u>4/</u>
Sweden -----	94	60	109	<u>4/</u>
BELGIUM -----	162	92	63	<u>4/</u>
Switzerland -----	62	45	49	36
CANADA -----	92	47	44	2,021
CZECHOSLOVAKIA -----	400	194	18	-

1/ Production and exports greatly exceed imports.2/ Includes duty-free imports valued at 1,735 thousand dollars principally from Canada and the United Kingdom. Of these, imports valued at 1,468 thousand dollars were free for Government use; 261 thousand dollars free, as an act of international courtesy; and 6 thousand dollars duty-free as scrap under Public Law 497, 77th Congress.3/ Includes Austria beginning 1938.4/ Less than \$500.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 397			
Articles or wares of base metal, n.s.p.f., not plated with platinum, gold, or silver, or colored with gold lacquer, whether partly or wholly manufactured:			
Woven wire fencing and netting composed of wire less than 0.08 but not less than 0.03 inch diameter:			
Coated with zinc or other metal before weaving -----	45	<u>1/50</u>	BELGIUM
Coated with zinc or other metal after weaving -----	45	<u>1/60</u>	do.

a/ The statistical import classes for 1939 were as follows: 6091.2; 610.70-1; 610.74-5; 6117.9; 615.79; 620.70; 620.81; 620.91-2; 620.98-9; 6305.9; 643.9; 6458.7; 6458.9; 6459.9; 6509.9; 6544.9; 6559.9; 679.24; 679.26; 679.29; 679.32; 679.564-6; 679.69; 679.73-5; 679.85-9; 679.91; 679.95; 679.99; 7067.0; 7786.1; 7786.3; 794.13-4; 794.16; 794.25; 794.27; 9439.13; 9790.8 (50 classes).

MISCELLANEOUS MANUFACTURES OF BASE METALS,
N.S.P.F. (SUMMARY DIGEST)--Continued

<u>Item</u>	<u>United States tariff</u>		<u>Proposed negotiating country</u>
	<u>Act of</u> <u>1930</u>	<u>1945</u> <u>rate</u>	
		<u>Percent ad valorem</u>	
Par. 397.			
Articles or wares of base metal, n.s.p.f., etc.--Cont'd.:			
Portable cooking and heating stoves, blow torches, and incandescent lamps, all the foregoing designed to be operated by compressed air and kerosene and/or gasoline; household cooking and heat- ing stoves, n.s.p.f.; and parts of all of the fore- going, n.s.p.f. -----	45	2/25	UNITED KINGDOM
Rivets, nuts, and washers with shanks, threads, or holes not over 0.24 inch in diameter, and wood screws having shanks not over 0.12 inch in diameter; all of the foregoing composed of base metal other than iron or steel; and screws, except wood screws, with shanks not over 0.24 inch in diameter composed wholly or in chief value of any base metal -----	45	3/30	do.
Slide fasteners and parts there- of in chief value of base metal -----	45	4/66	CZECHOSLOVAKIA
Containers, wholly or in chief value of tin plate -----	45	5/22½	UNITED KINGDOM
Cases and sharpening devices for safety razors; tricycles valued \$2.75 or more each; baby car- riage fittings; styluses; and golf club heads, all wholly or in chief value of base metal (except lead) -----	45	5/22½	do.
Articles or wares, n.s.p.f., wholly or in chief value of tin or tin plate (except tin plate containers) -----	45	6/22½	do.
Luggage hardware, wholly or in chief value of base metal (except lead) -----	45	5/30	do.

MISCELLANEOUS MANUFACTURES OF BASE METALS,
N.S.P.F. (SUMMARY DIGEST)--Continued

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 397			
Articles or wares of base metal, n.s.p.f., etc.--Cont'd:			
Brass bases for electric-lamp bulbs; carriages, drays; trucks; and parts in chief value of metal, n.s.p.f.; malleable cast-iron pipe fittings; hinges, hinge blanks, and builders' hard- ware; hurricane lanterns; lighting articles; noise makers; nonferrous metal nails; tricycles valued less than \$2.75 each; mechanics' tools, n.s.p.f. and metal typewriter parts -----	45	45	UNITED KINGDOM
Manufactures of iron or steel wire, n.s.p.f. -----	45	45	BELGIUM
Railway cars and parts, chief value of metal -----	45	45	CANADA
Articles or wares of zinc, n.s.p.f. -----	45	45	BELGIUM
Articles or wares of iron, steel, and other base metals (except lead, tin, tin plate, or zinc), n.s.p.f. -----	45	45	UNITED KINGDOM
Articles or wares in chief value of lead -----	45	3¢ lb. min. ^{5/} 22 $\frac{1}{2}$ % max. 45% ad val.	do.

1/ Presidential proclamation under section 336, effective March 1931.

2/ Trade agreement with Sweden, effective August 1935.

3/ Trade agreement with Switzerland, effective February 1936.

4/ Presidential proclamation under section 336, effective July 1936.

5/ Trade agreement with the United Kingdom, effective January 1939.

6/ Trade agreement with Mexico, effective January 1943.

Note.-- Under section 3425, Internal Revenue Code, articles in chief value of copper, including copper alloys, are subject to an additional import tax of 3 cents a pound gross weight, and articles with copper content of 4 percent or more are subject to a tax of 3/4 cent a pound gross weight or 3 percent ad valorem, whichever is lower.

MISCELLANEOUS MANUFACTURES OF BASE METALS,
N.S.P.F. (SUMMARY DIGEST)--Continued

Comment

This discussion deals with a wide variety of articles and wares manufactured from non-precious metals. The types and values of these base-metal manufactures have changed greatly from year to year, both as regards domestic output and foreign trade. For the whole group the miscellaneous manufactures which are classified for import purposes according to the base metal of chief value aggregated about 50 percent of the total import value in 1937. By 1939, when a larger number of commodities had come to be classified separately, the proportion had fallen to 40 percent. Slide fasteners (zippers) were the largest single import commodity in this group (in value) in 1939; other classifications of importance in either imports or production included tin cans, malleable cast-iron pipe fittings, miscellaneous builders' hardware, hinges, lanterns, lighting articles, stoves, and galvanized wire fencing and netting made with the fine gages of wire.

United States production and export data are not available for many individual articles in the group of products here under consideration. Even the limited statistics, however, indicate that production and exports of most of these classes of manufactures exceeded imports and for some commodities were very much greater in quantities and values. For example, the value of imports of tin cans and stoves in 1939 was negligible compared with domestic consumption, and was equal to only 1 percent of the value of exports for cans and 2 percent for stoves. The number of slide fasteners produced in the United States in 1939 was eight times the number imported. The value of the domestic output of the types of wire fencing and netting considered herein was 100 times the foreign value of imports for the same year, the value of luggage hardware produced was 200 times the foreign value of imports.

Imports in 1939 of all commodities in the group on which rates of duty had been decreased by trade agreement action aggregated \$119,000, or 6 percent of the total group of imports. Of the tariff-reduced items, those entering at 30 percent constituted two-tenths of the total; those at 25 percent, three-tenths; and those at 22½ percent, five-tenths.

Under Sec. 336 of the Tariff Act of 1930, the rate of duty (45 percent ad valorem) was increased in 1931 to 60 percent on wire fencing and netting coated before weaving and to 50 percent on that coated after weaving. The duty on slide fasteners was increased to 66 percent in 1936. The value of imports at these three increased rates was \$764,000 in 1939, or 39 percent of the imports during those years of all the base-metal manufactures considered herein. Zippers accounted for 92 percent of this value, while the galvanized fencing and netting coated after weaving accounted for most of the remaining 8 percent.

The following table shows United States imports of the several products here under consideration, classified according to rates of duty with principal sources, 1939.

MISCELLANEOUS MANUFACTURES OF BASE METALS,
N.S.P.F. (SUMMARY DIGEST)--Continued

Miscellaneous manufactures of base metal, n.s.p.f.: United States
imports for consumption, by rates of duty, by kind,
by principal sources, 1939

Rates of duty, and kind of product	Total value	Principal sources Values (1,000 dollars)
	1,000	
<u>66 percent:</u>		
Slide fasteners (zippers) and parts -----	701	Japan, 579; Philippine Islands, 106; CZECHOSLOVAKIA, 1/
<u>60 and 50 percent:</u>		
Woven-wire fencing and netting, 0.03 to 0.08 inch in diameter:		
<u>60 percent:</u>		
Coated before weaving -----	50	BELGIUM, 39; Germany, 2/ 13; Netherlands, 5; United King- dom, 1.
<u>50 percent:</u>		
Coated after weaving -----	5	Germany, 2/ 2; BELGIUM, 2.
<u>45 percent:</u>		
Hurricane lanterns and lighting articles, n.s.p.f. -----	55	Germany, 2/ 30; Japan, 12; France, 5; Netherlands, 5.
Manufactures of iron and steel, n.s.p.f. --	201	Germany, 2/ 44; UNITED KING- DOM, 27; France, 33; Japan, 25; Canada, 20.
Manufactures of copper, brass, and bronze, n.s.p.f. -----	98	Germany, 2/ 34; UNITED KINGDOM, 19; France, 14; Japan, 6.
Manufactures of tin and tin plate, n.s.p.f. 3/ -----	34	Japan, 22; Germany, 2/ 9; UNITED KINGDOM, 1.
Manufactures of aluminum, n.s.p.f. -----	29	Switzerland, 9; Japan, 6; Germany, 2/ 5; UNITED KINGDOM, 1.
Manufactures of other metals, n.s.p.f. ---	640	Germany, 2/ 180; Japan, 130; France, 87; Sweden, 70; UNITED KINGDOM, 70.
<u>30 percent:</u>		
Luggage hardware -----	14	UNITED KINGDOM, 13; France, 1.
Miscellaneous small screws, nuts, rivets, and washers -----	9	Switzerland, 8.
<u>25 percent:</u>		
Heating and cooking stoves and parts, n.s.p.f. -----	31	Sweden, 13; Germany, 4/ 10; Canada, 3; UNITED KINGDOM, 1.
Miscellaneous classified products at 25 percent -----	14	Sweden, 11; UNITED KINGDOM, 2.
<u>22½ percent:</u>		
Containers manufactured with tin plate ---	28	UNITED KINGDOM, 9; China, 7; Japan, 5; Canada, 3.
Manufactures of lead, n.s.p.f. -----	5/ 12	France, 8; UNITED KINGDOM, 3.
Miscellaneous classified products at 22½ percent -----	22	UNITED KINGDOM, 22.

1/ Includes only a few months; value was \$229,000 in 1937 or 25 percent of the value of imports from all countries.

2/ Includes Austria.

3/ Rate of duty reduced to 22½ percent ad valorem in January 1943, trade agreement with Mexico. 4/ Includes Austria. Imports were dutiable at 45 percent ad valorem.

5/ Ad valorem equivalent of the duties, 24 percent; rate of duty is 3p a pound, not less than 22½ percent or more than 45 percent ad valorem.

Source: Official statistics of the U. S. Department of Commerce.

MISCELLANEOUS MANUFACTURES OF BASE METALS,
N.S.P.F. (SUMMARY DIGEST)--Continued

There follow separate digests on --

Slide fasteners (zippers) and parts.

Woven-wire fencing and netting.

Miscellaneous manufactures of base metal, n.s.p.f:

Dutiable at 45 percent ad valorem

Dutiable at 30 percent ad valorem

Dutiable at 25 percent ad valorem

Dutiable at $22\frac{1}{2}$ percent ad valorem

WOVEN-WIRE FENCING AND NETTING COMPOSED OF WIRES
0.03-0.08 INCH IN DIAMETER

Par. No. 397
BELGIUM
UNITED KINGDOM

Stat. import classes (1939): 610.70-.71

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports ^{2/}	Imports for consumption from--			
			All countries	BELGIUM	Germany ^{3/}	UNITED KINGDOM
	Quantity (1,000 square feet)					
1937 ----	Not avail- able in square feet	Not avail- able	22,410	11,435	4,540	48
1938 ----			15,852	3,731	7,920	45
1939 ----			12,672	8,300	2,953	48
1943 ----			2	-	-	-
	Value (1,000 dollars)					
1937 ----	6,092	Not avail- able	132	67	34	1
1938 ----	n.a.		98	17	55	1
1939 ----	5,921		63	41	16	1
1943 ----			4/	-	-	-

^{1/} Poultry netting, 30-40 percent of quantity galvanized after weaving.

^{2/} Small, substantially less than imports.

^{3/} Includes Austria beginning 1938. ^{4/} Less than \$500 from Canada.

Source: Official statistics of the U. S. Department of Commerce.

Item

United States tariff

Proposed
negotiating
country

Act of
1930

1945
rate

Percent ad valorem

Par. 397

Woven-wire fencing and netting com-
posed of wires smaller than 0.08
inch and not smaller than 0.03
inch diameter:

Coated before weaving ----- 45 ^{1/} 50
Coated after weaving ----- 45 ^{1/} 60

UNITED KINGDOM,
BELGIUM
do.

^{1/} Rate changed in March 1931 under sec. 336, Tariff Act of 1930.

Comment

The wire fencing and netting under discussion is almost entirely of these types known as poultry netting and poultry fencing. Practically all this netting and substantial quantities of the fencing are made of wire less than 0.08 inch in diameter, whereas most woven-wire fence has wires of greater diameter than 0.08 inch (see par. 317). The netting and fencing herein covered is used for poultry runs, small-animal pens, salmon traps, backstops for tennis courts, and as a base for automobile tops, stucco walls, etc. The product which is galvanized after weaving is of better grade than that which is woven from wire galvanized before weaving.

United States production of poultry netting, as of other woven fencing and netting, has been greatly in excess of imports. Imports have consisted very largely of poultry type netting coated after weaving, such imports being five to six times greater in quantity and 10 to 12 times greater in value than imports of the netting woven from coated wire. Principal sources have been Belgium, Germany, and the Netherlands.

WOVEN-WIRE FENCING AND NETTING COMPOSED OF WIRES
0.03-0.08 INCH IN DIAMETER-Continued

The value of United States exports of all sizes and types of woven-wire netting and fencing was \$390,328 in 1937 and \$361,326 in 1939. Trade information indicates that the greater part of exports was fencing with wires greater than 0.08 inch in diameter and that imports exceeded exports of poultry netting.

Woven wire fencing and netting, wires 0.08-0.03 inch diameter: United States imports for consumption, by kind, with principal sources, 1937

Kind	Quantity	Value	Principal sources
	<u>Square feet</u>		
Coated before weaving ---	3,469,625	\$9,685	BELGIUM, \$5,476; Netherlands, \$2,999; Germany, \$1,114
Coated after weaving ----	18,940,966	122,794	BELGIUM, \$61,231; Germany, \$33,102; Netherlands, \$27,915; UNITED KINGDOM, \$546.

Source: Official statistics of the U. S. Department of Commerce.

SLIDE FASTENERS (ZIPPERS) AND PARTS.

Stat. import classes (1939): 679.564, 679.565, 679.566

United States production, exports, and imports, 1937-39 and 1943.

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Japan	Philippine Islands ^{1/}	CZECHO-SLOVAKIA	
Quantity (thousands) ^{2/}							
1937	n.a.	Not avail- able	39,533	32,052	299	6,655	
1938	n.a.		43,729	39,006	1,801	2,703	
1939	^{3/} 300,000		32,349	28,654	3,316	242	
1943	n.a.		405	380	-	-	
Value (1,000 dollars)							
1937	n.a.	Not avail- able	903	613	14	229	
1938	n.a.		930	745	62	92	
1939	18,876		701	579	106	8	
1943	n.a.		9	^{4/} 6	-	-	

^{1/} Duty-free.^{2/} Does not include number of parts.^{3/} Estimated. ^{4/} Represents withdrawals from storage warehouses.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

ItemUnited States tariffProposed negotiating countryAct of 1930 1945 ratePercent ad valorem

Par. 397

Slide fasteners and parts ----- 45 ^{1/} 66

CZECHOSLOVAKIA

^{1/} Presidential proclamation under section 336 of the Tariff Act of 1930, effective July 1936.Comment

The United States is the leading producer of slide fasteners (zippers). Exports are small as foreign producers can generally undersell American manufacturers in foreign markets. Domestic production increased from about 25 million zippers in 1929 to approximately 500 million in 1941, but during the war it was severely curtailed by the scarcity of materials. Most fasteners are purchased by manufacturers for incorporation in articles which they produce. Probably not more than 5 percent are sold at retail. In 1935 over half of the fasteners sold in the United States (domestic and imported) were used on handbags, sweaters, and jackets. The others were used on a wide variety of wearing apparel, billfolds, luggage, brief cases, and other articles. There are some plastic zippers made in addition to the metal, but they are relatively unimportant.

The principal foreign producing countries are Japan, Czechoslovakia, Germany, and the United Kingdom. Other important producers include Switzerland, Italy, Belgium, Austria, France, Canada, and Mexico. Except in Japan, where considerable hand labor is employed, manufacturing methods in foreign countries are substantially the same as in the United States.

SLIDE FASTENERS (ZIPPERS) AND PARTS-Continued

During the early 1930's the American producers encountered keen competition in the domestic market from foreign manufacturers. One of the leading American firms alleged that fasteners were being imported in violation of patent rights, and in July 1934, after an investigation by the Tariff Commission, certain types were excluded from entry. As the patents involved in these orders expired, foreign zippers began entering the country in greater numbers, and in July 1936 the rate of duty was increased almost 50 percent by Presidential proclamation to equalize costs of production in the United States and Japan, the chief competing country. Notwithstanding this adjustment in the duty, imports continued to increase until 1938, when they supplied about 20 percent of domestic consumption, in terms of number. Domestic manufacturers produce a large variety of sizes and styles, whereas imports were limited to a relatively few types. Competition from imports, therefore, was concentrated in these types and sizes. Imports of parts of zippers are comparatively small, amounting to less than 1 percent of the total value of imports in 1939.

Before the war Japan generally supplied 80 to 90 percent of the United States imports of zippers. The average foreign value of these imports was about 2 cents each, whereas the average value of domestic zippers was about 6 cents each. The spread in quality, however, was nothing like this spread in price. Czechoslovakia ranked second as a supplier, its fasteners selling at a higher price than those from Japan. In 1935 and 1937 Czechoslovakia supplied 40 and 15 percent, respectively, of the total imports, in terms of quantity, and 60 and 25 percent in terms of value. Other European countries, the Philippine Islands, and Canada have, at times, supplied substantial quantities, and China was important for several years after 1939. Germany was the principal source of the relatively small imports of zipper parts.

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MISCELLANEOUS MANUFACTURES OF BASE METALS DUTIABLE
AT 22½ PERCENT AD VALOREM

Par.No. 397
UNITED
KINGDOM

Stat. import classes (1939): 6117.9; 6509.9; 679.73-679.75; 794.14;
794.16; 9439.13; 9790.8

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	UNITED KINGDOM	Japan	Germany ^{1/}	France
Value (1,000 dollars)							
1937	Not	Not	57	11	30	10	1
1938	avail-	avail-	35	20	4	7	2
1939	able ^{2/}	able ^{2/}	96	33	27	9	9
1943			^{3/} 42	2	-	-	-

^{1/} Includes Austria beginning 1938. Imports were dutiable at 45 percent ad valorem.

^{2/} Production and exports greatly exceed imports.

^{3/} Includes imports from Canada valued at 30 thousand dollars and from Mexico valued at 8 thousand dollars.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 397 Articles or wares, n.s.p.f., not plated with platinum, gold, or silver, or colored with gold lacquer, whether partly or wholly manufactured:			
Containers, wholly or in chief value of tin plate.	45	^{1/} 22½	UNITED KINGDOM
Articles or wares composed wholly or in chief value of tin or tin plate (other than containers wholly or in chief value of tin plate).	45	^{2/} 22½	do.
Cases and sharpening devices for safety razors; tricycles, including velocipedes, valued at \$2.75 or more each; baby carriage fittings; styluses; and golf club heads; all of the foregoing wholly or in chief value of iron, steel, or other base metal (except lead).	45	^{1/} 22½	do.
Articles or wares composed wholly or in chief value of lead -----	45	3¢ lb., ^{1/} but not less than 22½% nor more than 45% ad val.	do.

^{1/} Trade agreement with the United Kingdom, effective January 1939.

^{2/} Trade agreement with Mexico, effective January 1943.

Note.- Under section 3425, Internal Revenue Code, articles with a copper content of 4 percent or more are subject to additional import tax of 3/4 cent a pound gross weight or 3 percent ad valorem, whichever is lower; if in chief value of copper, the rate of tax is 3 cents per pound, gross weight.

MISCELLANEOUS MANUFACTURES OF BASE METALS DUTIABLE AT
22½ PERCENT AD VALOREM—Continued

Comment

The manufactures of tin and tin plate considered herein include tin-plate containers and a wide variety of articles such as badges and medals, carnival and advertising novelties, cases, confectioners' moulds, covers, ornaments, and miscellaneous perforated and stamped articles such as signs and trays. The tin plate containers imported are largely of sizes and shapes for which the quantities required are too small to warrant United States manufacture by mass production methods. The combination safety razor cases and sharpening devices imported are designed for a razor not made in the United States. The tricycles considered are those in the higher price bracket. Those valued at less than \$2.75 each are covered in the discussion of articles dutiable at 45 percent ad valorem. Baby carriage fittings are accessory parts or attachments such as clamping devices, cover plates, and ornamental pieces. Styluses are pencil-like instruments for use in writing or drawing on stencils in preparation for reproduction by duplicating machines. Lead manufactures imported include amusement novelties, badges and medals, containers and tanks, figures and ornaments, fittings for lead pipe, foil and manufactures of foil, packing, tape, trinkets and vases.

The United States is the largest producer and consumer of tin plate and terneplate containers for use in merchandising food and many other products. The output of sanitary, packers', beer, and general-line containers (tin cans) was valued at nearly 322 million dollars in 1939. Imports were negligible compared with production and consisted of cans consigned to manufacturing agents of foreign concerns who package their products in the United States, and of cans and boxes of odd shapes and sizes. Exports of finished and unfinished tin cans amounted to \$1,957,000 in 1939. The value of tricycles manufactured in the United States in 1939 amounted to \$4,312,000. These were very largely in the higher price range, as the average unit value was \$3.42 each. Exports of the children's wheel goods here under consideration probably were considerably greater than imports, as exports of all children's wheeled goods amounted to \$338,000 in 1939.

No data comparable with imports are available for United States production of the miscellaneous tin, tin plate, and lead manufactures under consideration, nor for sharpening devices, baby-carriage fittings, golf club heads, and styluses. Probably production was much greater than imports. For example, the output of parts for children's vehicles made for sale separately in 1939 was \$665,000 and the value of golf clubs manufactured in 1939 was \$6,558,000. The imported baby carriage fittings were largely specialties and novelties, and the golf club heads probably were limited to custom- or hand-made heads.

Statistics of exports of tin, tin plate, and lead manufactures are not generally comparable to statistics of imports. Prewar exports of baby-carriage fittings and styluses were negligible as were also those of golf club heads, although exports of complete golf clubs amounted to \$105,609 in 1939.

MISCELLANEOUS MANUFACTURES OF BASE METALS DUTIABLE AT
22 $\frac{1}{2}$ PERCENT AD VALOREM—Continued

Miscellaneous manufactures of base metals: United States
imports for consumption, 1939

Kind	Total value	Principal sources
Tin plate manufactures: containers:	\$28,083	UNITED KINGDOM, \$8,635; China, \$6,983; Japan, \$4,551; Canada, \$2,616.
Tin manufactures, n.s.p.f. -----	17,158	Japan, \$13,071; Germany, $\frac{1}{2}$ \$2,998.
Tin plate manufactures, other, n.s.p.f. -----	16,334	Japan, \$8,891; Germany, $\frac{1}{2}$ \$5,663; UNITED KINGDOM, \$964.
Cases and sharpening devices for safety razors -----	1,473	UNITED KINGDOM, \$1,444; Canada, \$29.
Tricycles, including velocipedes, valued \$2.75 or more each -----	1,518	UNITED KINGDOM, \$1,381; France, \$127.
Fittings for baby carriages -----	15,636	UNITED KINGDOM, \$15,636.
Styluses -----	-	-
Golf club heads -----	4,057	UNITED KINGDOM, \$4,057.
Manufactures of lead, n.s.p.f.: 22 $\frac{1}{2}$ percent ad valorem -----	10,493	France, \$7,688; UNITED KINGDOM, \$2,381.
45 percent ad valorem -----	774	Germany, $\frac{1}{2}$ \$526; France, \$227.
3 $\frac{1}{2}$ a pound (equivalent ad valorem of duties, 26 percent) :	344	France, \$184; UNITED KINGDOM, \$152.

$\frac{1}{2}$ Includes Austria. Imports were dutiable at 45 percent ad valorem.
Source: Official statistics of the U. S. Department of Commerce.

All the duties of 22 $\frac{1}{2}$ percent on articles of this group represent reductions from the 45-percent rate of the 1930 act, which reductions were made by the trade agreement with the United Kingdom, effective January 1939, and the agreement with Mexico, effective January 1943. Notwithstanding the disturbed economic conditions in the United Kingdom in 1939, imports from that country of some of the articles covered by the 1939 agreement were decidedly larger in that year than in either of the two preceding years, and total imports were also larger. It is possible that when normal conditions have been restored both the imports of these articles from the United Kingdom, and the total imports, will be still larger if this rate of duty remains in effect.

Imports of manufactures of tin and tin plate (other than containers) before the war entered chiefly from Japan and Germany. When the duty on this group was reduced by trade agreement with Mexico early in 1943, that country became the principal supplier, Japan and Germany being shut off. It may be that when conditions become more normal Japan and Germany will again become the principal suppliers of these articles and that the total imports, at the present rate, will be appreciably larger than would enter if the 45-percent rate were still in force. Mexico may readily continue to be an important supplier.

MISCELLANEOUS MANUFACTURES OF BASE METAL DUTIABLE AT 25 PERCENT AD VALOREM

Stat. import classes (1939): 620.91-.92; 6458.7; 679.69; 7786.1 (5 classes)

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	Sweden	Germany ^{1/}	Canada	UNITED KINGDOM
			Value (1,000 dollars)				
1937 -	Not	Not	44	21	14	4	4
1938 -	avail-	avail-	44	24	13	3	4
1939 -	able ^{2/}	able ^{2/}	45	23	10	4	3
1943 -	(see text)	(see text)	4	-	-	4	-

^{1/} Includes Austria beginning 1938. Imports were dutiable at 45 percent ad valorem.^{2/} Production and exports greatly exceeded imports.

Source: Official statistics of the U. S. Department of Commerce, except as noted.

United States tariff		Proposed negotiating country
Act of 1930	1945 rate	
Percent ad valorem		

Par. 397

Articles or wares, n.s.p.f., not plated with platinum, gold, or silver, or colored with gold lacquer, whether partly or wholly manufactured:

Portable cooking and heating stoves, designed to be operated by compressed air and kerosene and/or gasoline, and parts thereof, n.s.p.f., if composed wholly or in chief value of iron, steel, or other base metal -----

45

^{1/} 25

UNITED KINGDOM

Cooking and heating stoves, of the household type, and parts thereof, n.s.p.f., wholly or in chief value of iron, steel, or other base metal, and not having as an essential feature an electrical element or device -----

45

^{1/} 25

do.

Blow torches and incandescent lamps, designed to be operated by compressed air and kerosene and/or gasoline, if composed wholly or in chief value of iron, steel, or other base metal -----

45

^{1/} 25

do.

Typewriter spools and parts of carbonated water siphons, composed wholly or in chief value of iron, steel, or other base metal (except lead) -----

45

^{2/} 25

do.

^{1/} Trade agreement with Sweden, effective August 1935.^{2/} Trade agreement with United Kingdom, effective January 1939.

Note.-- Under section 3425, Internal Revenue Code, articles in chief value of copper, including copper alloys, are subject to an additional import tax of 3 cents a pound gross weight, and articles with copper content of 4 percent or more are subject to an additional duty of 3/4 cent a pound gross weight, or 3 percent ad valorem, whichever is lower.

MISCELLANEOUS MANUFACTURES OF BASE METAL DUTIABLE AT 25 PERCENT AD VALOREM—Con.

Comment

The portable compressed air stoves here under consideration are used largely in camps, on boats, and for purposes where larger types are not convenient. The heating and cooking stoves here referred to are household units which burn coal, coke, wood, kerosene, gasoline, or gas, and special types of portable kerosene or gasoline stoves in which the fuel is fed through a heated jet by means of compressed air. Blow torches operated by compressed air are the types used by plumbers. Typewriter spools serve as holders for inked ribbons. The metal parts (usually of tin-lead alloys) for carbonated water siphons include the heads, covers, bulb holders, and other accessories.

United States production of heating and cooking stoves and ranges, which comprise the more important items here referred to, amounted to over 180 million dollars in 1937 and to nearly 167 millions in 1939. Of these, all types of kerosene and gasoline stoves accounted for nearly 36 million dollars in 1937 and 30 millions in 1939. The industry is widespread throughout the foundry-industry areas. Data are not available on United States production of the compressed-air types, either stationary or portable, but it is known to be greatly in excess of imports. Sweden has been the principal source of imports of heating and cooking stoves, with Germany in second place. Exports of all types of heating and cooking stoves were \$2,356,992 in 1937 and \$2,340,836 in 1939.

Detailed information on United States production of the other commodities here under consideration is not available, but production has supplied nearly all domestic consumption. It is understood from the trade that an appreciable quantity of the typewriter spools imported were for use in foreign-made machines. Imports of blow torches and siphon parts were negligible. United States exports of these items were probably also unimportant, but no doubt exceeded imports.

Miscellaneous products of base metal: United States imports for consumption, 1939

Kind	: Total : value	: Principal sources
Portable kerosene or gasoline compressed air stoves and parts —————	: : : \$8,812	: : : Sweden, \$8,631
Heating and cooking stoves, n.s.p.f., and parts —————	: : : 30,974	: : : Sweden, \$12,784; Germany ¹ / ₂ , \$10,354; Canada, \$3,582; UNITED KINGDOM, \$1,156
Brass blow torches and incan- descent lamps operated by compressed air (kerosene or gasoline fuel) —————	: : : : 2,163	: : : : Sweden, \$2,034
Metal parts of carbonated water siphons —————	: : : 375	: : : China, \$375
Typewriter spools —————	: : : 2,277	: : : UNITED KINGDOM, \$2,277

¹/₂ Includes Austria. Imports were dutiable at 45 percent ad valorem.

Source: Official statistics of the U. S. Department of Commerce.

MISCELLANEOUS MANUFACTURES OF BASE METALS, DUTIABLE AT 30 PERCENT AD VALOREM

Stat. import classes (1939): 620.98, 679.24, 679.37, 679.88, and 679.89

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	UNITED KINGDOM	Switzerland	France
	Value (1,000 dollars)					
1937 ----	Not	Not	1/ 30	22	-	3
1938 ----	avail-	avail-	1/ 11	8	2/	2/
1939 ----	able	able	3/ 23	14	8	1
1943 ----	(see text)	(see text)	3/ 19	-	-	-

1/ Includes imports valued at 3 thousand dollars from Germany (including Austria), dutiable at 45 percent ad valorem.

2/ Less than \$500.

3/ Includes imports valued at 17 thousand dollars from Canada.

Source: Official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed negotiating countryAct of 1945
1930 rate
Percent ad valorem

Par. 397

Articles or wares, n.s.p.f., not plated with platinum, gold, or silver, or colored with gold lacquer, whether partly or wholly manufactured:

Rivets, nuts, and washers, any of the foregoing having shanks, threads or holes not exceeding 0.24 inch in diameter; screws, commonly called wood screws, having shanks not exceeding 0.12 inch in diameter; all of the foregoing composed wholly or in chief value of base metal other than iron or steel ----- 45

1/ 30

UNITED KINGDOM

Screws, except those commonly called wood screws, having shanks or threads not exceeding 0.24 inch in diameter, composed wholly or in chief value of iron, steel, or other base metal ----- 45

1/ 30

do.

Luggage hardware composed wholly or in chief value of iron, steel, or other base metal (except lead) --- 45

2/ 30

do.

1/ Trade agreement with Switzerland, effective February 1936, except that for any of these articles wholly or in chief value of lead, the rate of 3 cents a pound, not less than 22½ percent or more than 45 percent ad valorem (trade agreement with United Kingdom, effective January 1939) would apply.

2/ Trade agreement with the United Kingdom, effective January 1939.

Note.-- Under section 3425, Internal Revenue Code, articles in chief value of copper, including copper alloys, are subject to an additional import tax of 3 cents a pound gross weight, and articles with copper content of 4 percent or more are subject to an additional tax of 3/4 cent a pound gross weight, or 3 percent ad valorem, whichever is lower.

MISCELLANEOUS MANUFACTURES OF BASE METALS, DUTIABLE AT
30 PERCENT AD VALOREM--Continued

Comment

The screws, rivets, nuts, and washers considered herein are all of small dimensions. Luggage hardware includes locks, catches, frames, handle and name plates, and other metal fixtures for trunks, traveling bags, and brief cases. Luggage slide and snap fasteners, rivets, and screws, which are similar to articles widely used for other purposes, are not considered for tariff purposes as luggage hardware.

United States production of luggage hardware of all metals amounted to \$3,115,000 in 1937 and \$2,926,000 in 1939. Imports under the classifications here considered were less than 1 percent of these figures. The United Kingdom supplied 85 to 90 percent of the total prewar imports. Separate data are not available for exports but they probably exceeded imports, as the United States has had a substantial foreign trade in practically all types of hardware.

United States production of all types and sizes of screws (except wood screws and bolts made in machines was valued at about 101 million dollars in 1937 and 80 millions in 1939. These values include an undeterminable proportion of the small screws considered herein. The output of nonferrous wood screws was \$1,414,000 in 1937 and \$1,140,000 in 1939. Production of nonferrous bolts, nuts, rivets, and washers of all sizes was 8.5 million dollars in 1937 and 8.9 millions in 1939. Prewar imports of screws, bolts, etc. in the classifications here under consideration thus appear to have been negligible compared with United States output in the broader categories and were very largely specialties, practically all supplied by Switzerland. United States exports of nonferrous wood screws were not reported separately, but probably were much greater than imports. Exports of bolts, nuts, rivets, washers, and screws within classifications comparable with the above production data were \$1,414,000 in 1937 and \$1,140,000 in 1939.

Luggage hardware, screws, rivets, nuts, and washers:
United States imports for consumption, 1939

Kind	Total value	Principal sources
Luggage hardware, not plated	\$14,323	UNITED KINGDOM, \$13,516; France, \$807.
Rivets, nuts, washers, n.e.s. (nonferrous - shanks of rivets not exceeding 0.24 inch) -----	1,303	Switzerland, \$1,303.
Screws, except wood, of iron or steel ^{1/} -----	2,774	Switzerland, \$2,266; Japan, \$169
		UNITED KINGDOM, \$145.
Wood screws, not iron or steel ^{2/} -----	350	Germany, ^{3/} \$350.
Other screws, not iron or steel ^{1/} -----	4,829	Switzerland, \$4,829.

^{1/} Having shanks or threads not exceeding 0.24 inch diameter.

^{2/} Having shanks or threads not exceeding 0.12 inch diameter.

^{3/} Includes Austria. Imports dutiable at 45 percent ad valorem.

Source: Official statistics of the U.S. Department of Commerce.

MISCELLANEOUS MANUFACTURES OF BASE METALS,
NOT SPECIALLY PROVIDED FOR, DUTIABLE
AT 45 PERCENT AD VALOREMStat. import classes (1939): Various 2/

United States production, exports, and imports, 1937-39 and 1943

	1937	1938	1939	1943
	Value (1,000 dollars)			
Production <u>1/</u> -----	n.a.	n.a.	n.a.	n.a.
Exports <u>1/</u> -----	n.a.	n.a.	n.a.	n.a.
Imports for consumption from:				
Total, all countries -----	2,636	1,552	1,023	<u>2/</u> 2,395
Germany <u>3/</u> -----	797	584	293	<u>4/</u>
Japan -----	677	235	179	1
France -----	153	135	143	<u>4/</u>
UNITED KINGDOM -----	322	201	117	339
Sweden -----	73	36	86	<u>4/</u>
Switzerland -----	56	44	41	36
CANADA -----	88	44	37	1,970
BELGIUM -----	83	74	21	<u>4/</u>

1/ Production and exports of the group of products here considered taken as a whole greatly exceed imports.2/ Free for Government use, 1,467 thousand dollars; also 259 thousand dollars free as an act of international courtesy and 6 thousand dollars free as scrap under Public Law 497, 77th Congress.3/ Includes Austria beginning 1938.4/ Less than \$500.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff	Proposed negotiating country
	Act of 1930	1945 rate
	Percent ad valorem	

Par. 397

Articles or wares, n.s.p.f. ***; if composed wholly or in chief value of iron, steel, copper, brass, nickel, pewter, zinc, aluminum, or other base metal (except lead and tin or tin plate), but not plated with platinum, gold, or silver, or colored with gold lacquer, whether partly or wholly manufactured ----- 1/ 45 1/ 45 UNITED KINGDOM 2/

1/ Under section 3425, Internal Revenue Code, articles in chief value of copper are subject to an additional import tax of 3 cents a pound gross weight, and articles with copper content of 4 percent or more are subject to an additional tax of 3/4 cent a pound gross weight or 3 percent ad valorem, whichever is lower.2/ Also BELGIUM for manufactures of iron or steel wire, n.s.p.f., and for manufactures of zinc, n.s.p.f.; and CANADA for railway cars and parts.

Note.—This general classification includes specific commodity classes for bases for lamp bulbs, builders' hardware, railway cars, hinges, malleable cast-iron pipe fittings, lighting articles, nonferrous nails, noise makers, mechanics' tools, tricycles valued less than \$2.75 each, typewriter parts, horse-drawn vehicles, and miscellaneous manufactures of wire, in addition to classes for miscellaneous unclassified manufactures of aluminum, brass, bronze, copper, iron or steel, nickel, pewter, zinc, and other base metals. The table at the end of this digest shows the relative importance of United States imports in the different commodity classes.

2/ The statistical import classes for 1939 were as follows: 6091.2, 610.75, 615.79, 620.70, 620.81, 620.99, 6305.9, 643.9, 6458.9, 6559.9, 6544.9, 679.13, 679.26, 679.29, 679.32, 679.85-679.86, 679.91, 679.95, 679.99, 7067.0, 7786.3, 794.13, 794.25, 794.27, 6459.9 (26 classes).

MISCELLANEOUS MANUFACTURES OF BASE METALS, NOT SPECIALLY
PROVIDED FOR, DUTIABLE AT 45 PERCENT AD VALOREM--
Continued

Comment

This digest covers a great variety of articles and commodities manufactured from nonprecious metals. As appears from the following table, many of the statistical classes are themselves "basket" classes which comprise a wide variety of individual articles. The types and values of the individual commodities making up the group vary greatly from year to year as regards both domestic production, exports, and imports. The group as a whole constituted about 50 percent of all base-metal manufactures, n.s.p.f., imported under paragraph 397 in 1937; by 1939, when a larger number of commodities had come to be classified separately, the proportion had fallen to 40 percent. Data for domestic production and exports comparable with the data for imports as regards composition are not available, but there is no doubt that both production and exports of most of the articles and classes specified in the table have been much greater than imports. In considerable part the imports have been specialties in small total demand.

Miscellaneous manufactures of metal products, n.s.p.f.: United States
imports for consumption, by kinds, with principal sources, 1937

Kind	Total value	Principal sources
Malleable cast iron pipe fittings ---	\$57,624	Japan, \$48,413; Canada, \$6,630; UNITED KINGDOM, \$2,566
Wire manufactures, n.s.p.f., of iron or steel.	103,828	BELGIUM, \$59,470; Germany, \$19,433; France, \$10,665
Mechanics' tools, n.s.p.f., of iron or steel.	233,308	Germany, \$135,493; Japan, \$43,916; UNITED KINGDOM, \$16,538
Hinges and hinge blanks of iron or steel.	44,547	Sweden, \$23,008; Japan, \$16,650; Germany, \$4,855
Builders' hardware, n.e.s. -----	22,108	Sweden, \$6,398; Germany, \$6,084; Japan, \$4,800
Other iron and steel manufactures, n.s.p.f.	347,533	Germany, \$118,775; UNITED KINGDOM, \$62,283; Japan, \$49,495; Canada, \$28,050
Manufactures of aluminum, n.s.p.f. ---	57,266	Germany, \$20,559; Switzerland, \$8,311; Ceylon, \$8,205; Japan, \$7,374
Manufactures of copper, n.s.p.f. -----	34,630	UNITED KINGDOM, \$11,353; Germany, \$7,975; France, \$4,200
Manufactures of brass, n.s.p.f. -----	129,011	Germany, \$40,896; UNITED KINGDOM, \$31,714; China, \$14,521; Japan, \$9,449
Manufactures of bronze, n.s.p.f. -----	32,267	Germany, \$15,667; Japan, \$4,450; Austria, \$2,834; UNITED KINGDOM, \$2,442
Manufactures of nickel, n.s.p.f. -----	35,668	UNITED KINGDOM, \$21,443; Germany, \$11,796
Manufactures of zinc, n.s.p.f. -----	828	Germany, \$404; Austria, \$340
Hurricane lanterns -----	-	-
Other lighting articles -----	138,689	Germany, \$64,417; Czechoslovakia, \$38,085; Japan, \$19,619; France, \$6,147; UNITED KINGDOM, \$4,020
Manufactures of pewter, n.s.p.f. -----	3,409	China, \$1,282; UNITED KINGDOM, \$481; Japan, \$427
Wire manufactures (nonferrous), n.s.p.f.	524	France, \$241; Japan, \$220

MISCELLANEOUS MANUFACTURES OF BASE METALS, NOT SPECIALLY PROVIDED FOR,
DUTIABLE AT 45 PERCENT AD VALOREM--Continued

Miscellaneous manufactures of metal products, n.s.p.f.: United States
imports for consumption, by kinds, with principal sources,
1937--Continued

Kind	Total value	Principal sources
Nails, not iron or steel -----	\$939	France, \$579; Germany, \$294; UNITED KINGDOM, \$66
Noise makers -----	-	
Manufactures of antimony, n.s.p.f. ---	21,579	Japan, \$21,267
Other metal manufactures, n.s.p.f. ^{1/}	1,291,518	Japan, \$382,164; Germany, \$362,253; UNITED KINGDOM, \$149,485; Czechoslovakia, \$94,643; France, \$83,875
Brass bases for lamp bulbs -----	59,615	Japan, \$59,615
Parts of typewriters, not spools ----	389	France, \$167; Switzerland, \$144; UNITED KINGDOM, \$78
Cars and parts for railways -----	5,474	Belgium, \$5,413
Horse-drawn vehicles, metal chief value.	15,092	UNITED KINGDOM, \$11,269; Japan, \$1,150; Germany, \$1,032

^{1/} Includes many specialties such as matrices for making phonograph records.
Source: Official statistics of the U. S. Department of Commerce.

GOLD-PLATED ARTICLES, NOT SPECIALLY PROVIDED FOR

Stat. import class (1939): 690.15

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	CHINA	Germany ^{1/}	France	United Kingdom
			Value (dollars)				
1937	1,000,000 annually ^{2/}	Not avail- able ^{3/}	29,135	17,807	4,073	2,272	1,452
1938			24,291	13,670	3,919	1,689	1,874
1939			15,253	7,796	2,763	2,079	1,483
1943			^{4/} 4,230	-	20	-	387

^{1/} Includes Austria beginning 1938. ^{2/} Estimated^{3/} Probably twice as large as imports; included in export data with solid gold articles.^{4/} Includes imports from Mexico valued at \$3,763.

Source: Imports from official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed
negotiating
countryAct of
19301945
ratePercent ad valorem

Par. 397

Articles of wares not specially provided for, plated with gold, whether partly or wholly manufactured -----

65

65

CHINA

Comment

Ecclesiastical goods, trophies, and novelties are frequently gold plated. Consumption of these articles, however, is limited.

Imports are confined largely to novelties or goods of an ornamental character. China is the principal source of imports, but a number of countries, notably Germany, France, and the United Kingdom, have been rather constant suppliers of limited imports.

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GOLD LACQUERED ARTICLES

Stat. import class (1939): 690.16

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	CHINA	Nether-lands	Japan	France
Value (dollars)							
1937 -	Little if any	Probably none	<u>1</u> /1,376	716	-	12	86
1938 -			436	30	-	146	244
1939 -			396	199	159	38	-
1943 -			-	-	-	-	-

1/ Includes \$518 imported from the United Kingdom.

Source: Imports from official statistics of the U. S. Department of Commerce.

<u>Item</u>	<u>United States tariff</u>		<u>Proposed</u>
	<u>Act of</u>	<u>1945</u>	<u>negotiating</u>
	<u>1930</u>	<u>rate</u>	<u>country</u>
Par. 397	<u>Percent ad valorem</u>		
Articles or wares not specially provided for, if colored with gold lacquer -----	65	65	CHINA

Comment

The production of lacquer ware is an industry of great antiquity largely confined to Oriental countries where lacquer is readily obtainable. In the production of gold lacquered articles, designs or pictures are painted by lacquer on metal or other material, and gold dust or pigment applied. There is little or no production in the United States.

United States consumption of gold lacquered articles is relatively small. China has been the principal source of imports in recent years, but France, Germany, Japan, and a few other countries have supplied small quantities of these articles sporadically.

The relatively high duty on these articles has no doubt restricted importations somewhat.

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GOLD MANUFACTURES, NOT SPECIALLY PROVIDED FOR

Stat. import class (1939): 690.06

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports ^{2/}	Imports for consumption from--				
			All countries	Germany ^{3/}	France	Switzerland	UNITED KINGDOM
	Value (dollars)						
1937 -	1,000,000	317,952	^{4/} 1,700	877	250	-	31
1938 -	to	148,463	1,209	228	476	-	224
1939 -	2,000,000	232,512	1,477	754	337	120	111
1943 -	annually	290,963	6,017	-	-	93	5,106

^{1/} Estimated. ^{2/} Includes gold-plated articles.^{3/} Includes Austria beginning 1938.^{4/} Includes imports from the Soviet Union valued at \$324.

Source: Official statistics of the U.S. Department of Commerce, except as noted.

Item	United States tariff		Proposed negotiating country
	Act of	1945	
	1930	rate	
	Percent ad valorem		
Par. 397			
Articles or wares, not specially provided for, if composed wholly or in chief value of gold -----	65	65	UNITED KINGDOM

Comment

Production of solid gold articles is restricted by the limitation which price imposes upon consumption. With gold priced at \$35 an ounce, unit values are necessarily high, and total production is small. Many of these articles are specialties. Exports include a great variety of products which have gone to numerous countries.

Imports have been very small and have consisted chiefly of novelties and ecclesiastical goods. In 1943 the United Kingdom was the chief source, but in other years the Soviet Union, France, or Germany was the leading source.

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Figure 1. Schematic diagram of the experimental setup for the study of the effect of the initial concentration of the polymer solution on the morphology of the electrospun fibers.

THE UNIVERSITY OF CHICAGO

Proof: Let μ

1. The first part of the document is a list of names and titles, including "The Hon. Mr. Justice" and "The Hon. Mr. Justice".

2000

1. The first group of people who are interested in the study of the history of the world are the historians. They are people who study the past and try to understand what happened and why it happened. They use a variety of sources, including books, documents, and artifacts, to reconstruct the past. They also try to understand the people who lived in the past and how they thought and felt. Historians are interested in the past for a variety of reasons. Some are interested in the past because they want to know what happened and why it happened. Others are interested in the past because they want to understand the people who lived in the past and how they thought and felt. Still others are interested in the past because they want to learn from the mistakes of the past and avoid them in the future.

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SILVERWARE (EXCEPT CUTLERY AND JEWELRY)
(SUMMARY DIGEST)

Stat. import classes (1939): 690.24, 690.25, 690.31, 690.33, 690.35, 690.39, 709.55

United States production, exports, and imports, 1937-39 and 1943 ^{1/}

Year	Production	Domestic exports	Imports for consumption from--				
			ALL countries	UNITED KINGDOM	Denmark	Japan	Mexico
Value (1,000 dollars)							
1937	18,301	n.a.	1,917	628	181	92	3
1938	n.a.	n.a.	593	383	124	13	4
1939	14,538	233	767	507	133	12	7
1943	n.a.	2/193	422	296	-	1	33

^{1/} Hollow ware, ecclesiastical ware, trophies, novelties, etc. Production data are not strictly comparable with export and import data because spoon ware production is not available for inclusion.

^{2/} Includes silver solder.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed rate of negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		

Par. 339

Silver-plated table, kitchen, and
hospital utensils, and hollow or
flat ware, n.s.p.f.:

Plated with silver on nickel

silver or copper -----

50

^{1/} 35

UNITED KINGDOM

Plated with silver on other

materials -----

50

50

do.

Par. 397

Articles or wares, n.s.p.f.:

Plated with silver on nickel silver
or copper -----

65

^{1/} 35

do.

Plated with silver on other

materials -----

65

65

do.

Articles or wares, n.s.p.f. if

composed wholly or in chief value
of silver -----

65

^{2/} 50

do.

^{1/} Trade agreement with the United Kingdom, effective January 1939.

^{2/} Trade agreement with the United Kingdom, effective January 1939. Under the

trade agreement with Mexico, effective January 1943, the rate was temporarily

further reduced to 32½ percent ad valorem and this reduction is still in force.

However, the United States has reserved the right to terminate this reduction after the termination of the national emergency on 6 months' notice to Mexico. The minimum permissible rate under the present Trade Agreements Act is 25 percent ad valorem.

Comment

This report deals with the various types of silverware classified in paragraphs 339 and 397 of the Tariff Act of 1930, including both solid-silver and silver-plated ware and covering such articles as flatware (spoons), hollow ware (trays, tea and coffee sets, bowls, vegetable dishes, goblets, and plates), novelties (boxes, table decorations, and other ornamental objects), and ecclesiastical ware. Other flatware (knives and forks) is not included herein but is included in the cutlery paragraph, 355, and jewelry is included in paragraph 1527(a).

SILVERWARE (EXCEPT CUTLERY AND JEWELRY)--Continued

In both solid and silver-plated ware, flatware (knives, forks, and spoons) is the most important subgroup in United States production and consumption, and imports of flatware are limited. Hollow ware, ecclesiastical goods, and novelties comprise a substantially smaller proportion of domestic production than does flatware, but these articles are imported in much greater volume than flatware. In both branches of the industry competition is keener in hollow ware than in flatware. Novelties are frequently specialties; they vary greatly in type and quality.

United States exports of the articles here considered are less than 2 percent of production.

The same types of products are made of solid silver and of silver-plated base metals. Solid-silver articles have much the higher unit value. The low cost of the metals on which silver is plated and mass-production methods in manufacturing silver-plated articles make possible low prices and large consumption. While there is some use of machinery in the production of solid-silver articles, much of this type of ware is ornamented with hand chasing or engraving--processes which require a high degree of skill and add materially to the cost.

In 1939 there were 150 manufacturers, employing about 12,000 workers. A relatively few of these producers were large companies producing both silver-plated and solid-silver articles, but generally speaking the domestic silverware industry is composed of two clearly defined though closely associated branches manufacturing solid-silver articles, and silver-plated base-metal ware, respectively. The numerous small shops produce silver-plated or solid-silver articles, novelties, and specialties. Producers are located mainly in the New England States and New York.

The value of domestic output of solid-silver articles is not as great as that of silver-plated articles. This may be attributed to the limitation which price imposes upon consumption. Import trade in silver-plated products is likewise greater than that in products of solid silver, principally because of the lower price but also perhaps because of the more favorable tariff treatment accorded plated ware. The ratio of imports to domestic production in prewar years was somewhat higher for plated ware than for solid silverware.

The solid-silver branch of the industry is naturally affected to a greater extent by fluctuations in the price of silver than is the silver-plated branch. Low prices for silver operate to reduce the price differential between solid-silver and silver-plated articles, and rising silver prices have the reverse effect.

In prewar years, silver sold for industrial purposes at comparable prices the world over, and the silverware manufacturers of no one country could obtain a competitive advantage in the cost of raw material. The prevailing price was 35 cents an ounce. Most countries afforded their industries protection in home markets through tariff and other trade restrictions; and some countries promoted the export of silverware by the negotiation of preferential tariff or bilateral trade agreements. The relative competitive strength of the silverware industry in various countries depended principally on design and craftsmanship; other factors included the degree of prestige attached to the ware produced, and the degree of efficiency in production and distribution.

Under the Tariff Act of 1930 the rate of duty on those articles making up the bulk of imports of silver-plated ware was 50 percent, and the rate on the bulk of imports of solid silverware was 65 percent. In the trade agreement with the United Kingdom, effective January 1939, the 50 percent rate was reduced to 35 percent, and the 65 percent rate to 50 percent. The latter was further temporarily reduced to 32½ percent in the trade agreement with Mexico, effective January 1943. War conditions affected this trade materially, and obscured the effects of the reductions in duty.

SILVERWARE (EXCEPT CUTLERY AND JEWELRY)--Continued

During the war, production of silverware by the leading industrial nations was greatly curtailed. Silver as well as the essential base metals became scarce. United States manufacturers were limited to 50 percent of their 1941 or 1942 production, and their purchases of silver were confined to that procurable at 71 cents an ounce. Imports declined greatly and the character of the trade changed. Countries formerly unimportant in import trade became important. Some of these countries in order to give encouragement to this trade subsidized their industries and required domestic silver producers to supply the silver requirements of the home industries at prices which were lower than the price prevailing in the United States. With these unusual conditions still largely prevailing, the competitive situation in the near future is unpredictable. A year or more may elapse before conditions in the industry become normal and the trade settled. The United Kingdom will no doubt remain the most important source of United States imports of silver-plated ware, but the sources of solid-silver imports cannot be forecast.

Imports, by principal statistical classifications, in 1937-39 and 1943, and by principal sources, in 1939 and 1943, are shown below.

Silverware (except cutlery and jewelry): United States imports for consumption, by kinds, 1937-39 and 1943

Para- graph	Kind	1937	1938	1939	1943
		Value			
339	Silver plated:				
	Table, household, kitchen, and hospital utensils, and hollow or flat ware, n.s.p.f.	\$557,559	\$332,398	\$454,266	\$242,788
397	Other articles not enumerated: separately -----	95,044	37,322	43,725	16,477
	Total -----	652,603	369,720	497,991	259,265
	Solid silver:				
397	Sterling silver tableware ---	255,603	145,384	132,210	84,641
397	Silver manufactures, n.s.p.f.	109,025	78,728	136,330	78,173
	Total -----	364,628	224,112	268,540	162,814
339,397	Total -----	1,017,231	593,832	766,531	422,079

Source: Official statistics of the U. S. Department of Commerce.

Silverware (except cutlery and jewelry): United States imports for consumption, by kinds and principal sources, 1939 and 1943

:	:	Silver-plated	:	Solid silver	:
:	:	Table,household, etc., utensils & hollow or flat-ware, n.s.p.f. (339)	:	Sterling silver manufactures, n.s.p.f. (397)	:
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Source: Official statistics of the U. S. Department of Commerce.

(Separate digests cover the silver-plated and solid-silver products included herein.)

SILVER-PLATED TABLE, HOUSEHOLD, KITCHEN, AND HOSPITAL UTENSILS, AND HOLLOW OR FLATWARE, NOT SPECIALLY PROVIDED FOR (OTHER SILVER-PLATED ARTICLES ARE DUTIABLE UNDER PAR. 397)

Stat. import classes (1939): 690.31, 690.33, and 709.55

United States production, exports and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from---				
			All countries	UNITED KINGDOM	Japan	Canada	Mexico
	Value (1,000 dollars)						
1937	7,393	n.a.	557	460	72	1	<u>2/</u>
1938	n.a.	n.a.	332	297	10	1	<u>2/</u>
1939	5,687	<u>3/</u> 167	454	392	9	2	<u>2/</u>
1943	n.a.	<u>3/</u> 89	243	234	<u>2/</u>	3	<u>4</u>

^{1/} Figures shown represent hollow ware; total production of silver-plated ware, including flatware (knives, forks, and spoons), novelties, and miscellaneous articles was valued at \$34,864,654 and \$32,745,454 in 1937 and 1939, respectively.

^{2/} Less than \$500.

^{3/} Represents exports of silver-plated ware other than knives, forks, and steak sets.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		

Par. 339

Table, household, kitchen, and hospital utensils, and hollow or flatware, n.s.p.f.:

Plated with silver on nickel silver or copper	50	<u>1/</u> 35	UNITED KINGDOM
Plated with silver on other materials	50	50	do.

1/ Trade agreement with the United Kingdom, effective January 1939.

Comment

The production of silver-plated hollow ware for table use, such as bowls, dishes, trays, tea and coffee sets, is an important branch of the domestic silver-plating industry. The demand for these products, however, is somewhat more limited than the demand for flatware (knives, forks, and spoons). Knives and forks, the leading flatware items, are not included herein; they are dutiable as cutlery at compound rates under the provisions of paragraph 355.

Silver-plated ware is made in a multiplicity of patterns, ranging from articles with little or no decorative design, such as hotel ware, to very elaborate goods, such as reproductions of antiques, and in a multiplicity of grades, depending upon the thickness of the silver plate, the weight and character of the blanks to which the plating is applied, the type of design and finish, and the character of any hand decoration used. The blanks are of nickel silver, white or britannia metal, brass, copper, or antimonial lead.

Domestic production is largely with a nickel silver or white (britannia) metal base; products with a copper or brass base are of lesser importance.

SILVER-PLATED TABLE, HOUSEHOLD, KITCHEN, AND HOSPITAL UTENSILS, AND HOLLOW OR FLATWARE, NOT SPECIALLY PROVIDED FOR (OTHER SILVER-PLATED ARTICLES ARE DUTIABLE UNDER PAR. 397)-Continued

Silver constitutes a relatively small part of the cost of silver-plated wares; consequently moderate fluctuations in the price of silver do not materially influence their cost. In prewar years, between 2.5 and 4 million ounces of silver were used annually in silver-plated articles. Improved methods of manufacture and the low cost of other raw materials combined to keep the price of silver-plated articles at a low level as compared with similar articles made of solid (sterling) silver.

Domestic production of silver-plated hollow ware is centered in Connecticut, New York, and Massachusetts, although plants are located in nine other States east of the Mississippi. A few large companies manufacture complete lines of silver-plated ware, including both flat and hollow ware. A number of smaller companies (about 30) specialize in the manufacture of hollow ware, the production of which is less exacting and does not require so large a capital investment as the production of flatware. The largest manufacturers of silver-plated ware also make some sterling-silver articles.

The United Kingdom has been the dominant factor in the import trade in silver-plated articles. Imports from the United Kingdom are mainly hollow ware in a wide range of articles similar in construction and quality to those of American make. Much of the imported ware consists of reproductions of old designs electroplated on nickel silver or copper. The United States has been the largest single market for British exports. Silver-plated articles imported from countries other than the United Kingdom include both some distinctive higher-priced goods, such as are imported from France, and low-priced specialties cast from antimony or hard lead and given a thin coating or flash of silver, such as were imported in substantial quantities from Japan during the period 1933-36. Imports by type of base metal, by principal sources, 1939-43 are shown below.

Silver-plated table, household, kitchen, and hospital utensils, and hollow or flatware, n.s.p.f.:¹ United States imports for consumption, by kinds, by principal sources, 1939-43

Year	Total, all countries	UNITED KINGDOM	China	Japan	France	Canada	Mexico	All other
	Plated with silver or nickel silver or copper							
1939	\$429,274	\$376,272	\$7,016	\$5,142	\$4,943	\$2,051	\$99	\$33,751
1940	485,380	450,822	8,174	1,904	3,011	1,786	13	19,670
1941	479,210	460,408	2,859	532	2,645	1,425	293	11,048
1942	249,177	241,231	933	2	-	2,594	673	3,744
1943	230,172	222,702	-	-	-	3,106	3,430	934
	Plated with silver on other metals							
1939	24,992	15,428	998	4,142	1,077	330	11	3,006
1940	19,525	10,752	1,648	5,194	313	123	38	1,457
1941	16,762	11,129	1,745	478	6	67	384	2,953
1942	8,934	5,493	135	-	-	190	1,352	1,764
1943	12,616	11,311	-	1	-	364	458	482

¹/- No imports of articles plated with silver on nickel silver or copper; containing electrical heating elements except imports valued at \$29 from the United Kingdom in 1942.

Source: Official statistics of the U. S. Department of Commerce.

SILVER-PLATED TABLE, HOUSEHOLD, KITCHEN, AND HOSPITAL UTENSILS, AND HOLLOW OR FLATWARE, NOT SPECIALLY PROVIDED FOR (OTHER SILVER-PLATED ARTICLES ARE DUTIABLE UNDER PAR. 397)-Continued

United States exports of silver-plated hollow ware, although comparatively small, are widespread; South American countries, Mexico, and Cuba have been among the leading markets.

Foreign competition in the domestic market has come mainly from English silverware in the higher-priced brackets. Competition from British goods is largely the result of a certain prestige attached to "English" silverware. The relatively high price of many of the English products removes them from the ordinary channels of distribution utilized by domestic producers.

During the war little silverware was made, and the trade was sharply curtailed. Such silver-plated ware as was produced consisted chiefly of essential articles, such as knives, forks, and spoons (flatware) for the military services. With the resumption of trade in silver-plated hollow ware, foreign competition as in prewar years is likely to be keenest from British producers.

An unknown competitive factor at the present time is the effect which the higher price of silver (90-1/8 cents an ounce as compared with a prewar price of 35 cents an ounce) will have on the silver-plated branch of the silverware industry. From a competitive standpoint, a rising price for silver is beneficial, or at least less injurious, to the silver-plated branch of the industry than to the solid silver branch. For, when the price of silver rises, the price differential between silver-plated and solid (sterling) silver articles is increased.

The reduction of the duty on silver-plated tableware, plated on nickel silver or copper (the principal bases used both in this country and in the United Kingdom) from 50 percent to 35 percent ad valorem by the trade agreement with the United Kingdom, effective January 1, 1939, naturally had little effect on imports in 1939, because of the disturbed economic and political conditions. The ratio of imports to domestic production in that year was about the same as in 1927. Neither production nor imports during the war years have much significance as an indication of the probable postwar situation.

SILVER-PLATED ARTICLES, N.S.P.F

Stat. import classes (1939): 690.35 and 690.39

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports	Imports for consumption from--				
			All countries	UNITED KINGDOM	France	China	Japan
			Value (1,000 dollars)				
1937 --	2,775	Not	95	28	11	11	17
1938 --	n.a.	avail-	37	9	9	4	2
1939 --	1,639	able ^{2/}	44	18	9	5	2
1943 --	n.a.	^{3/}	16	7	-	-	-

^{1/} Includes silver-plated novelties, toiletware, loving cups and other trophies, ecclesiastical ware, and other articles.^{2/} Known to be small.^{3/} Includes imports from Mexico valued at 8 thousand dollars.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
	Percent ad valorem		
Par. 397			
Articles or wares not specially provided for:			
Plated with silver on nickel silver or copper -----	65	^{1/} 35	UNITED KINGDOM
Plated with silver on other materials -----	65	65	do.
^{1/} Trade agreement with the United Kingdom, effective January 1939.			

Comment

Silver-plated novelties, trophies, ecclesiastical ware, and miscellaneous specialties are produced in the United States by a few firms who specialize in this field, some of whom also make copper, sterling silver, and other metal articles. The principal production is in New York and Connecticut, but Illinois, Massachusetts, New Jersey, Michigan, Ohio, Pennsylvania, and California also manufacture these products to some extent.

In the manufacture of novelties, trophies, and ecclesiastical ware, base metal blanks of copper, nickel silver, brass, or white metal, are first fabricated in the form and decoration of the finished articles and then electroplated with silver. Some of these articles require the use of heavy stamping or spinning equipment; they are usually made by the larger firms. Other articles that can be cast in dies and then plated are adapted to production by small firms. Attractiveness of design and uniqueness of product are underlying factors in sales of many of these articles.

United States imports consist of diversified products, chiefly of an ornamental nature. They come principally from the United Kingdom, France, China, and Mexico. Japan was for a time an important source, having supplied nearly 30 percent of the total value during the years 1931-37. A number of other countries also share in the trade.

SILVER-PLATED ARTICLES, N.S.P.F.—Continued

Imports from the United Kingdom consist primarily of articles plated on a nickel silver or copper base on which the duty was reduced from 65 percent to 35 percent ad valorem by the 1939 agreement. The reduction in duty did not apply to imports from Japan to any extent because they were chiefly plated on an anti-monial lead base, which remained dutiable at 65 percent. Imports from other countries, notably France, China, and Mexico, are divided between those on nickel silver, or copper, and those on other metals.

Silver-plated articles or wares, n.s.p.f.: United States imports
for consumption, by type of base metal, by principal sources,
1939-43

Year	Total all countries	UNITED KINGDOM	France	China	Japan	Mexico	All other
Plated with silver on nickel silver or copper							
1939 -----	\$24,467	\$15,295	\$1,920	\$1,063	\$239	-	\$5,950
1940 -----	6,967	5,826	84	647	187	-	223
1941 -----	19,600	17,255	66	605	96	\$27	1,551
1942 -----	18,151	17,693	-	-	-	-	458
1943 -----	12,322	6,668	-	-	-	4,684	970
Plated with silver on other metals							
1939 -----	\$19,258	\$2,587	\$6,752	\$4,292	\$2,256	-	\$3,371
1940 -----	8,643	1,103	839	1,279	2,694	\$51	2,677
1941 -----	3,447	1,867	-	388	264	47	881
1942 -----	553	180	-	60	-	98	215
1943 -----	4,155	748	-	-	-	3,357	50

Source: Official statistics of the U. S. Department of Commerce.

The reduction in duty on these silver-plated articles when plated on nickel silver or copper, from 65 percent to 35 percent ad valorem by the trade agreement with the United Kingdom, effective January 1939, naturally failed to exercise a significant effect on the imports of 1939, because of the disturbed economic and political conditions. The situation with respect to domestic production and imports during the war was, of course, not at all indicative of what may occur during the postwar period.

STERLING-SILVER ^{a/} TABLEWARE (EXCEPT CUTLERY) AND
SILVER MANUFACTURES, NOT SPECIALLY PROVIDED FOR

Stat. import classes (1939): 690.24, 690.25

United States production, exports, and imports, 1937-39 and 1943

Year	Production ^{1/}	Domestic exports ^{2/}	Imports for consumption from---				
			All countries	Denmark	UNITED KINGDOM	Mexico	Canada
			Value (1,000 dollars)				
1937 -	8,133	18	365	178	140	1	1
1938 -	n.a.	41	224	120	82	3	2/
1939 -	7,212	66	269	127	97	7	4
1943 -	n.a.	109	163	-	55	76	23

^{1/} Sterling-silver hollow ware, novelties, trophies, toiletware, and other articles; total production of sterling silverware including flatware (which includes cutlery) was valued at \$17,639,564 and \$17,109,164 in 1937 and 1939, respectively.

^{2/} Not strictly comparable in all years; gold-plated articles were included in 1938, and silver solder in 1943.

^{3/} Less than \$500.

Source: Official statistics of the U. S. Department of Commerce.

Item	United States tariff	Proposed
	Act of 1945	negotiating
	1930 rate	country
	Percent ad valorem	

Par. 397

Articles or wares, n.s.p.f., if
composed wholly or in chief value
of silver

65

1/50

UNITED KINGDOM

^{1/} Trade agreement with the United Kingdom, effective January 1939. Under the trade agreement with Mexico, effective January 1943, the rate was temporarily further reduced to 32½ percent ad valorem and this reduction is still in force. However, the United States has reserved the right to terminate this temporary reduction after the termination of the national emergency on six months notice to Mexico. The minimum permissible rate under the present Trade Agreements Act is 25 percent ad valorem.

Note.- The tariffs on similar silver-plated articles (pars. 339 and 397) should be considered in connection with any change in this rate.

Comment

Sterling-silver tableware and miscellaneous articles such as ecclesiastical goods, ornaments, and novelties, are produced in the United States by three types of producers: (1) A few large manufacturers, whose products are entirely or principally sterling silverware (including flat and hollow ware); (2) a few large manufacturers of silver-plated ware, who produce some sterling-silver products; and (3) a considerable number of small shops producing sterling-silver articles exclusively. In all, about 35 firms produce sterling-silver hollow ware and about 10 produce novelties, often in conjunction with novelties made of other metals. Some of these firms have been engaged in the industry over a long period and their products have high prestige. The industry is located principally in New England, New York, New Jersey, and Maryland.

^{a/} Sterling is a quality designation applied to solid silver of a certain fineness, i.e., silver 0.925 fine (containing 92.5 percent of pure silver), which is the standard of fineness in the United States and the United Kingdom.

STERLING-SILVER TABLEWARE (EXCEPT CUTLERY) AND SILVER
MANUFACTURES, NOT SPECIALLY PROVIDED FOR — Continued

Much sterling-silver hollow ware is handwrought or ornamented with hand-chasing or engraving processes which increase the cost of production. Articles for ornamental purposes consist chiefly of handwrought pieces made by skilled artists, while articles for ordinary usage, such as salts and peppers, goblets, and vegetable dishes, are made largely by mechanical operations. Machine work on high-grade hollow ware is limited almost entirely to the initial forming process.

The domestic sterling-silver hollow ware industry generally consumes about 4 million ounces of silver yearly and silver accounts for about 95 percent of the cost of raw materials. The differential between the value of the raw material and the price of the finished article varies with the workmanship involved. For example, a sterling-silver pitcher weighing $27\frac{1}{2}$ ounces with silver content valued at \$24 would retail at four or more times such value depending upon the character of ornamentation. Normally the industry purchases its silver at the open market price quoted in New York. The average open market price of silver at New York, in specified years, 1909 to 1945, is shown below:

<u>Year</u>	<u>Average price per fine troy ounce</u>	<u>Year</u>	<u>Average price per fine troy ounce</u>
1909 _____	\$0.52	1937 _____	\$0.45
1914 _____	.56	1939 _____	.39
1919 _____	1.12	1940 _____	.35
1924 _____	.67	1941 _____	.35
1929 _____	.53	1943 _____	.45
1932 _____	.28	1944 _____	.45
1935 _____	.65	1945 _____	<u>1</u> /.52

1/ In September 1945 the Office of Price Administration raised the ceiling price of foreign silver from 45 cents to 71.11 cents, whereupon the New York open market price rose to 70-3/4 cents. The current price (November 15, 1946) is 90-1/8 cents.

Source: Annual reports of the Director of the Mint; Engineering and Mining Journal, Mineral and Metal Market.

The United Kingdom ordinarily has been the principal source of imports of sterling-silver hollow ware and novelties. For a short period (1935-39) before the war, imports from Denmark exceeded those from the United Kingdom and since 1943 Mexico has been the chief source. Silverware imported from the United Kingdom is similar in pattern and type to domestic articles; that from Denmark is of a distinctive modernistic type, largely the output of a single producer, and that from Mexico consists of a somewhat limited line of hollow ware and specialties (mainly handicraft) of characteristic design. Imports by principal sources in specified years during the period 1929-45 are shown below.

STERLING-SILVER TABLEWARE (EXCEPT CUTLERY) AND SILVER
MANUFACTURES, NOT SPECIALLY PROVIDED FOR - Continued

Sterling-silver tableware (except cutlery) and silver manufactures,
not specially provided for: United States imports for consumption,
by principal sources, in specified years, 1929 to 1945

Year	Total all countries	Denmark	UNITED KINGDOM	Mexico	Canada	All other
Sterling-silver tableware						
1929	\$480,493	\$157,497	\$206,477	\$362	\$2,168	1/ \$113,989
1933	83,146	34,200	45,533	-	12	3,401
1937	255,603	136,042	104,219	437	430	14,475
1939	132,210	67,914	52,819	4,472	221	6,784
1941	87,976	46	84,036	1,418	355	2,121
1943	84,641	-	45,378	18,098	19,871	1,294
1945 2/	397,157	-	50,143	326,350	3,459	3/ 17,205
Silver manufactures, n.s.p.f.						
1929	267,376	46,172	98,219	4,716	1,104	4/ 117,165
1933	54,403	6,685	29,216	923	105	17,474
1937	109,025	41,784	35,991	1,051	317	29,882
1939	136,330	59,234	44,392	2,687	3,920	26,097
1941	83,734	472	68,187	2,029	571	12,475
1943	78,173	-	9,548	57,966	3,036	7,623
1945 2/	337,829	-	15,417	273,987	2,765	5/ 45,660
Total						
1929	747,869	203,669	304,696	5,078	3,272	5/ 231,154
1933	137,549	40,885	74,749	923	117	20,875
1937	364,628	177,826	140,210	1,488	747	44,357
1939	268,540	127,148	97,211	7,159	4,141	32,881
1941	171,710	518	152,223	3,447	926	14,596
1943	162,814	-	54,926	76,064	22,907	8,917
1945 2/	734,986	-	65,560	600,337	6,224	7/ 62,865
1/	Includes Germany, \$45,538; France, \$38,873.					
2/	Preliminary.					
3/	Includes Peru, \$16,414.					
4/	Includes Germany, \$49,367; France, \$26,694.					
5/	Includes Peru, \$39,378.					
6/	Includes Germany, \$94,905; France, \$65,567.					
7/	Includes Peru, \$55,792.					

Source: Official statistics of the U. S. Department of Commerce.

During the war a large portion of the domestic industry's facilities were converted to the production of war goods mainly of materials other than silver. Production of silverware was limited under a quota system to 50 percent of 1941 or 1942 production, whichever was the greater. Before 1942 the industry had used only silver of foreign origin, which had been procurable at slightly over the Treasury's daily buying rate of 35 cents per ounce. Beginning in 1942, with silver scarce and war uses growing, a series of government orders were issued regulating the use of silver; imported silver was reserved for essential war purposes and silverware producers were dependent upon purchases of newly mined domestic silver, or upon purchases from the Treasury's stock of free silver at 71.11 cents per fine troy ounce.^{1/} Under the restrictions imposed by Government regulations, little sterling-silver hollow ware and novelties were produced and retail dealers turned to trading in old domestic and British articles. Then Mexican and, to a lesser degree, Peruvian silverware appeared on the market in increasing quantities.

At the war's end, most restrictions were removed. The price ceiling for foreign silver was raised, however, to 71.11 cents per ounce, or to a parity with the Treasury's price for newly-mined domestic silver.^{2/} Maximum prices for silver manufactures were permitted to take into account the 36-cent per ounce increase in the cost of silver. The appearance of domestic sterling-silver articles in retail stores has been retarded by reconversion and delays in obtaining raw and semi-fabricated materials.

^{1/} The price of government-owned silver as of November 15, 1946, is 91 cents.

^{2/} The Treasury's price for newly mined domestic silver as of November 15, 1946, is 90½ cents per ounce.

STERLING-SILVER TABLEWARE (EXCEPT CUTLERY) AND SILVER
MANUFACTURES, NOT SPECIALLY PROVIDED FOR -- Continued

The keenest foreign competition before the war was experienced by the branch of the industry making sterling-silver table hollow ware and ornamental goods, particularly those of high quality. Competition in the past came chiefly from England and Denmark. Many English and Danish articles were marketed widely despite their relatively high cost. Recently, with both domestic and normal foreign suppliers inactive, substantial quantities of Mexican products have been distributed in the United States, and imports from Peru and Canada have increased. In addition to competition with sterling-silver products, there was before the war some competition from imported silver-plated ware, confined principally to high-grade, silver-plated articles and dependent to some extent upon the price of silver.

When English and Danish exporters to the United States again become active, competition is likely to be greater than hitherto. In addition to England, Denmark, and Mexico, numerous other countries, notably France, Peru, and Canada, will no doubt endeavor to obtain a larger share of the trade.

Present world conditions in the silver trade are unsettled and some time may elapse before conditions become reasonably stable. Recently, with unusual conditions in silver dealings, price ceilings, import, and export embargoes have been prevalent everywhere and the silverware industry in some countries has been subsidized. The development of the silver-working industries in Mexico, Peru, and Canada has received additional encouragement from their respective governments, particularly in the assurance of adequate supplies of silver, and these countries are likely to be more important factors in future trade than their prewar status would indicate.

The reduction in the duty on solid silverware from 65 percent to 50 percent ad valorem by the trade agreement with the United Kingdom, effective January 1939, naturally failed to exercise a significant effect on the imports of 1939, because of the disturbed economic and political conditions. The situation during the war as regards both domestic production and imports, of course, throws little light on the probable postwar situation. It is likely that in the postwar period the 50 percent duty, if continued in effect, will result in an appreciably higher ratio of imports to domestic production than existed before the war; this is the more probable because of the development during the war of import trade with Mexico and other countries previously unimportant sources of imports.

COAL (ANTHRACITE AND BITUMINOUS). (FREE)

Stat. import classes (1939): 5000.0 and 5002.0

United States production, exports, and imports, specified years 1929 to 1943

Year	Production	Domestic exports	Imports for consumption from--				
			All countries	SOVIET UNION	CANADA	United Kingdom	Germany
	Quantity (1,000 long tons)						
1929	536,537	18,603	921	113	454	334	3
1932	321,048	9,033	698	201	156	257	56
1934	371,916	10,863	530	289	104	136	-
1936	436,305	11,012	772	403	177	190	-
1937	444,107	13,445	549	238	195	117	-
1938	352,369	11,071	489	179	167	138	-
1939	398,530	12,661	522	190	210	112	-
1943	581,104	26,763	753	-	596	157	-
	Value (1,000 dollars)						
1929	1,338,424	98,310	5,485	737	2,047	2,600	17
1932	629,052	41,752	4,375	1,466	861	1,598	311
1934	872,535	51,464	4,048	2,442	601	1,002	-
1936	995,004	52,381	4,523	2,471	731	1,311	-
1937	1,061,641	63,617	2,824	1,145	810	868	-
1938	859,253	52,739	3,073	1,125	748	1,177	-
1939	915,523	62,698	3,087	1,275	972	791	-
1943	1,891,460	163,023	4,034	-	2,583	1,451	-

Source: Production from official statistics of the Bureau of Mines; exports and imports, from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
Par. 1650 Coal, anthracite, semi-anthracite, bituminous, semi-bituminous, and shale -----	Free, subject to conditional duty (see text)	Free 1/	CANADA, SOVIET UNION

1/ The Revenue Act of 1932, effective June 21, 1932, (now section 3423, Internal Revenue Code) imposed an import-excise tax of 10 cents per 100 pounds on coal. Because of the conditional application of the tax, and treaty obligations, it has actually been applied to practically no imports (see comment).

Comment

The United States normally produces over 30 percent of the world's output of bituminous coal and over 50 percent of all anthracite. Of the 1939 domestic production, 89 percent was bituminous and the remainder anthracite.

COAL (ANTHRACITE AND BITUMINOUS). (FREE)-Continued

Imports are principally from the Soviet Union, Canada, and the United Kingdom. They have always been small; in 1939 total imports amounted to only 0.13 percent of domestic consumption. Most imports enter the New England area; smaller amounts are imported from Canada into other coal-deficient border states. Exports in 1939 amounted to 3.5 percent of domestic production. They go to many countries, but Canada has been the principal market.

Coal was on the free list under the Tariff Acts of 1913, 1922, and 1930, but the Act of 1922 provided that "if any country, dependency, province, or other subdivision of government imposes a duty on coal when imported from the United States, an equal duty shall be imposed on such article coming into the United States from such country, province, or other subdivision of government." This conditional-duty provision was reenacted in the 1930 Tariff Act but was repealed by the trade agreements act effective June 12, 1934.

The Revenue Act of 1932, effective June 21, 1932, imposed an import-excise tax of 10 cents per 100 pounds on coal. This tax was not applicable to imports from any country with which the balance of trade in coal (in terms of quantity) in the previous year was in favor of the United States. In addition, the tax was made inapplicable "if treaty provisions of the United States otherwise provide." Since the balance of trade in coal between the United States and Canada and between the United States and Mexico was in favor of the United States during the calendar year 1931, coal from those countries entered in 1932, after the tax became effective, tax-free. As a result of the tax-free status of Canadian and Mexican coal, imports from other countries with which the United States had treaties containing "most-favored-nation clauses" were entitled to tax exemption regardless of the previous year's balance of trade with those countries. However, imports of coal from countries with which the United States had no "most-favored-nation" obligations were subject to the tax unless the balance of trade in coal between those countries and the United States was favorable to the United States in the previous year. Actually, the United States has maintained a favorable balance of trade in coal chiefly with respect to Canada, but because of the conditional application of the tax and treaty obligations the only principal source of imports whose coal has been subject to the tax was the Soviet Union. However, since August 1937 coal from the Soviet Union has also been tax-exempt because of the extension of the most-favored-nation treatment to Soviet products in commercial agreements between the United States and that country. Imports from Germany were tax-exempt until termination in October 1935 of "most-favored-nation" obligations contained in the treaty with that country. Since then imports from Germany have been nil; if any had entered they would have been subject to the tax.

Coal: United States imports for consumption, by kind, with principal sources, 1939

Kind	Total value	Principal sources
Anthracite -----	\$1,859,168	SOVIET UNION, \$1,275,209; United Kingdom, \$475,121; CANADA, \$59,201
Bituminous -----	1,228,191	CANADA, \$911,808; United Kingdom, \$316,383

Source: Official statistics of the U. S. Department of Commerce.

Stat. import class (1939): 5008.0

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports	Imports for consumption from--			
			All countries	CANADA	Belgium	United Kingdom
	Quantity (1,000 long tons)					
1937 ---	46,765	470	256	74	82	30
1938 ---	29,015	434	121	52	32	17
1939 ---	39,578	527	127	77	33	13
1943 ---	63,998	888	88	87	-	<u>1</u> /
	Value (1,000 dollars)					
1937 ---	261,004	3,568	1,780	882	402	166
1938 ---	167,182	3,035	1,094	692	166	128
1939 ---	212,884	3,878	1,387	1,129	153	79
1943 ---	476,117	7,342	1,113	1,107	-	5

1/ Less than 500.

Source: Production from statistics of the U. S. Bureau of Mines; exports and imports from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
Par. 1650 Coke -----	Free	Free 1/	CANADA

1/ The Revenue Act of 1932, effective June 1932 (now sec. 3423, Internal Revenue Code) imposed an import-excise tax of 10 cents per 100 pounds on imported coke made from coal. Because of the conditional application of the tax and treaty obligations, this tax has actually applied to practically no imports.

Comment

As over 75 percent of the total domestic production of coke is consumed by the iron and steel industries, production is governed largely by the operating rate of these industries. Coke consumed by the iron and steel industries is practically all manufactured in "furnace" plants--that is, coking plants affiliated with these industries--whose output does not ordinarily enter the open market. Nonfurnace producers include a few plants affiliated with local iron furnaces but producing more coke than they can absorb. The excess is disposed of to the foundry and domestic trade, or as merchant sales. In 1943, 50 "furnace" plants produced 77 percent of total domestic output, compared with 23 percent manufactured by 41 other plants.

Coke has been imported chiefly from Canada, Belgium, the United Kingdom, and Germany; the total volume imported, however, has been very small compared with domestic production. Domestic exports go to many countries, but Canada and France have been the largest markets.

SLACK AND CULM AND BRIQUETS

Par. No. 1650

CANADA

BELGIUM

Stat. import classes (1939): 5009.0; 5013.1

United States production, exports, and imports, 1937-39 and 1943

Year	Production <u>1/</u>	Domestic exports <u>1/</u>	Imports for consumption from---			
			All countries	CANADA	BELGIUM	
	Quantity (1,000 long tons)					
1937 —	889	23	37	31	6	
1938 —	778	15	61	48	9	
1939 —	797	11	61	60	1	
1943 —	1,932	156	70	69	—	
	Value (1,000 dollars)					
1937 —	6,394	166	140	112	28	
1938 —	5,702	123	256	187	51	
1939 —	5,802	98	289	284	5	
1943 —	15,148	1,365	422	419	—	

^{1/} Briquets only. Exports other than in briquet form are believed to be small or negligible.

Source: Production from statistics of the U. S. Bureau of Mines; exports and imports from official statistics of the U. S. Department of Commerce.

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
Par. 1650			
Briquets -----	Free	Free ^{1/}	BELGIUM
Slack and culm -----	Free	Free ^{1/}	CANADA

^{1/} The Revenue Act of 1932, effective June 21, 1932, imposed an import-excite tax of 10 cents per 100 pounds on slack, culm, and briquets. Because of the conditional application of the tax and treaty obligations, this tax has not actually applied to any imports.

Comment

Slack is a waste product of the bituminous coal industry. It is produced in the recovery of coal from the solid and in its cleaning and preparation, handling, and shipment. Slack includes also inferior coal and small amounts of slate. Culm is the similar product of the anthracite coal industry. No record is kept of the amount of slack and culm produced. Since it is a waste product, economical mining demands that production be kept as low as possible. Production and export data given above relate to briquets only.

Slack and culm are used principally in the manufacture of briquets and packaged fuel for domestic or household use. The volume of both slack and culm utilized is probably small compared to the quantity produced, the balance being discarded as a waste product. Briquets are manufactured either wholly from one or the other of the materials slack, culm, lignite char, petroleum coke, and residual carbons (obtained from natural gas and in the manufacture of oil-gas or from mixtures of these materials). The ingredients are mixed with a binder, usually asphaltic pitch, and pressed into either pillow, cylindrical, or cubical shapes weighing from 2 to 25 ounces. Because of the enormous quantity of slack produced at lake ports, Wisconsin is the leading briquet producer. Twenty-eight briqueting

SLACK AND CULM AND BRIQUETS - Continued

plants, located in 14 States, were reported in operation in 1943. They consumed 1,725,991 long tons of slack and culm and 128,022 long tons of other residual carbons.

Slack and culm are imported mainly from Canada, while Belgium is the principal source of imports of briquets. Domestic exports of slack and culm other than in briquets form are not recorded, but are believed to be very small. With the exception of a few hundred tons of briquets sent to Central and South America, the bulk of the exports go to Canada.

Slack and culm--briquets: United States imports
for consumption, by kinds, with principal
sources, 1939

Kind	Total value	Principal sources
Briquets	\$5,752	BELGIUM, \$5,752
Slack and culm	283,651	CANADA, \$283,651.

Source: Official statistics of the U. S. Department of
Commerce.

LIGNITE

Stat. import class (1939): 5014.3

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports <u>1/</u>	Imports for consumption from--			
			All countries	CANADA		
	Quantity (tons)					
1937 ----	2,873,658	Not avail- able	3,584	3,584		
1938 ----	2,676,780		1,804	1,804		
1939 ----	2,716,614		1,551	1,551		
1943 ----	2,454,874		2,157	2,157		
	Value (dollars)					
1937 ----	3,477,000	Not avail- able	10,018	10,018		
1938 ----	3,212,000		5,701	5,701		
1939 ----	3,452,000		5,039	5,039		
1943 ----	4,096,000		8,526	8,526		

^{1/} Believed to be negligible.

Source: Production from statistics of the U. S. Bureau of Mines; imports from official statistics of the U. S. Department of Commerce.

ItemUnited States tariffProposed
negotiating
countryAct of
19301945
rate

Par. 1719

Minerals, crude, or not advanced in value or condition by refining or grinding, or by other process of manufacture, n.s.p.f.:

Lignite ----- Free ^{1/} Free ^{1/} CANADA

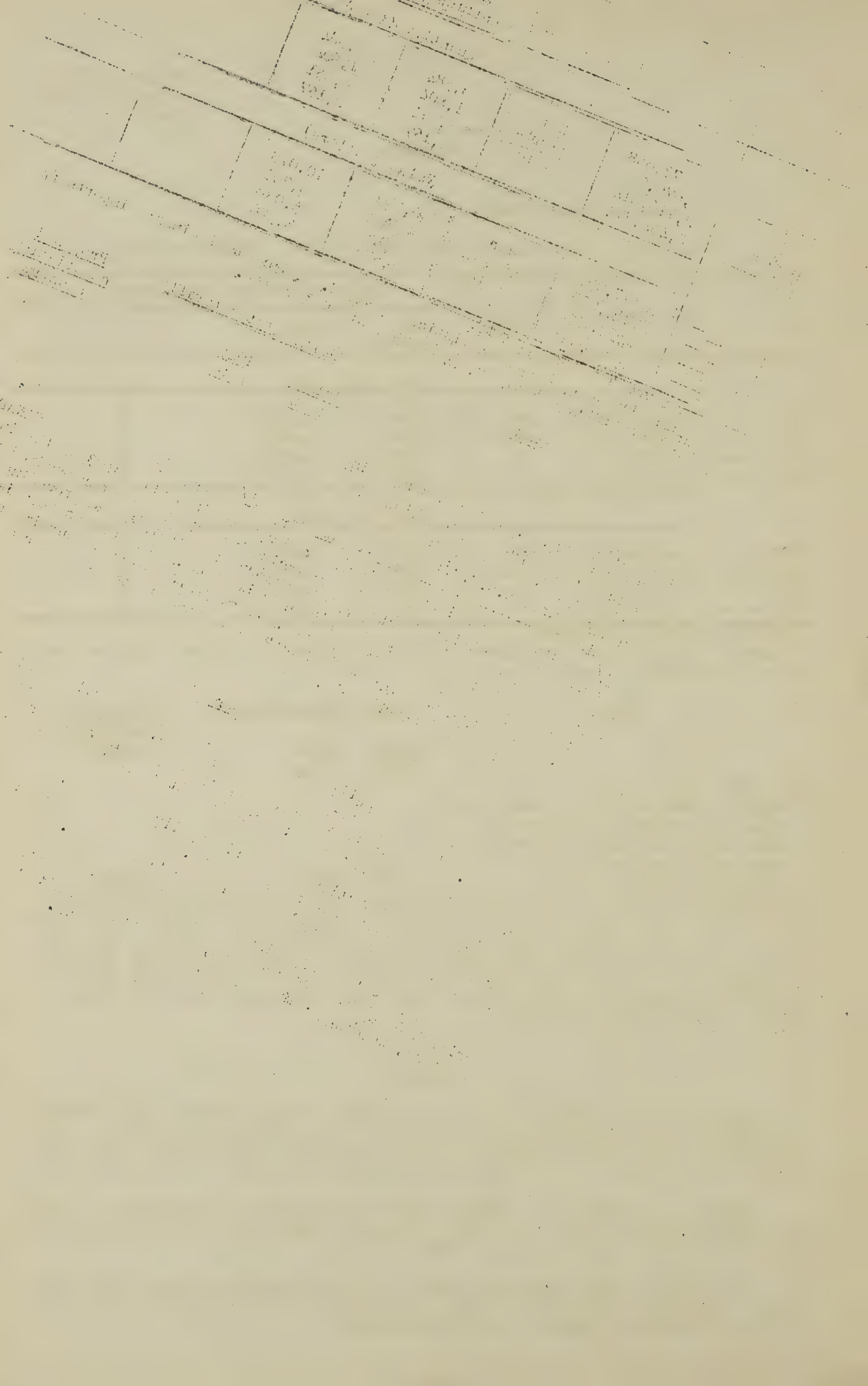
^{1/} Lignite is considered as coal for purposes of section 3423 of the Internal Revenue Code which imposes an import-exercise tax of 10 cents per hundred pounds. The tax does not apply to imports from a country to which, in the preceding year, the United States exported more coal than it imported. No tax has been imposed on coal from Canada because our exports have regularly exceeded our imports therefrom. The duty-free status of lignite was bound in the trade agreement with Canada, effective January 1939.

Comment

Lignite is a consolidated coal of low heating value, intermediate in classification between sub-bituminous coal and peat. It generally has a visible woody structure. In the United States it is used mainly as a household fuel in areas adjacent to the source and also where better fuels are scarce or expensive.

Domestic production comes principally from North Dakota, with smaller amounts from Montana, South Dakota, and Texas. Annual production is about 2,600,000 long tons, of which 90 percent comes from North Dakota.

Canada is the only significant source of imports, shipments being made from British Columbia, Saskatchewan, Alberta, and Manitoba into the nearby States of Montana, Washington, Minnesota, and the Dakotas.



COPPER ORE, CONCENTRATE, MATTE, BLISTER, REFINED AND OLD SCRAP

Stat. import classes (1939): 6400.4-9, 6402.3, 6402.5, 6404.1, 6405.1, 6408.1, 6416.1, 6417.1, and 6418.1

Table 1.- United States production, exports, and imports, 1935 and 1937-45

Year	Production	Domestic exports	Imports for consumption ^{1/} from--				
			All countries	CHILE	Mexico	Peru	Canada
Quantity (short tons--copper content)							
1935	643,000	277,952	240,528	82,764	48,322	34,730	41,251
1937	1,244,000	320,065	227,479	92,979	41,142	39,022	10,317
1938	829,000	393,358	205,718	65,265	35,979	38,031	28,936
1939	1,000,000	390,482	230,669	70,702	44,835	35,981	25,226
1940	1,243,000	363,784	364,997	170,079	35,535	35,372	28,884
1941	1,379,000	106,873	^{2/} 720,708	^{2/} 454,274	^{2/} 64,041	^{2/} 33,686	^{2/} 58,487
1942	1,515,000	^{3/} 135,826	^{2/} 782,360	^{2/} 536,207	^{2/} 55,924	^{2/} 37,096	^{2/} 40,143
1943	1,521,000	^{3/} 177,099	^{2/} 736,279	^{2/} 485,353	^{2/} 53,905	^{2/} 33,030	^{2/} 33,515
1944 ^{4/}	1,560,000	^{3/} 136,945	^{2/} 764,203	^{2/} 545,346	^{2/} 44,944	^{2/} 32,194	^{2/} 59,192
1945 ^{4/}	1,343,000	^{3/} 48,731	^{2/} 896,240	^{2/} 450,204	^{2/} 76,251	^{2/} 33,127	^{2/} 93,108
Value (1,000 dollars)							
1935	107,000	42,628	33,120	11,661	6,126	4,916	6,082
1937	327,000	82,147	52,403	21,729	9,083	9,906	2,497
1938	166,000	77,809	37,755	11,747	6,181	7,133	5,770
1939	219,000	85,633	44,086	13,771	7,970	7,331	4,999
1940	281,000	83,447	73,352	35,031	7,129	7,719	5,654
1941	325,000	24,078	^{2/} 141,621	^{2/} 89,136	^{2/} 11,861	^{2/} 7,103	^{2/} 11,973
1942	^{5/} 357,000	^{3/} 30,816	^{2/} 164,490	^{2/} 116,219	^{2/} 10,271	^{2/} 8,194	^{2/} 8,919
1943	^{5/} 358,000	^{3/} 37,193	^{2/} 155,733	^{2/} 107,786	^{2/} 10,904	^{2/} 7,611	^{2/} 7,475
1944 ^{4/}	^{5/} 368,000	^{3/} 13,696	^{2/} 164,946	^{2/} 121,082	^{2/} 9,397	^{2/} 7,207	^{2/} 13,918
1945 ^{4/}	^{5/} 317,000	^{3/} 10,471	^{2/} 194,406	^{2/} 98,061	^{2/} 15,263	^{2/} 7,774	^{2/} 22,637

^{1/} Before the war practically all the imports were duty-free (import-excise tax) for smelting, refining, and export (for separate import statistics on such imports and on imports for consumption, see tables 5 and 6 given subsequently in this digest). During the war years, imports were largely free for Government use: namely, 48 percent in 1941; 81 percent in 1942; 83 percent in 1943; 91 percent in 1944; and 92 percent in 1945. (See footnote 2).

^{2/} Includes the following tonnage imported free for Government use: 347,359 short tons valued at 68,371 thousand dollars in 1941; 635,878 short tons valued at 137,645 thousand dollars in 1942; 613,546 short tons valued at 155,733 thousand dollars in 1943; 698,639 short tons valued at 154,241 thousand dollars in 1944; and 834,108 short tons valued at 183,388 thousand dollars in 1945. During this period imports from the Belgian Congo averaged about 80,000 short tons annually.

^{3/} Exports under lend-lease were: 97,684 short tons valued at 23,246 thousand dollars in 1942; 81,443 short tons valued at 19,973 thousand dollars in 1943; 33,203 short tons valued at 6,953 thousand dollars in 1944; 4,459 short tons valued at 1,060 thousand dollars in 1945.

^{4/} Preliminary.

^{5/} Exclusive of Government subsidy payments.

Source: Production statistics from the U. S. Bureau of Mines; exports and imports from official statistics of the U. S. Department of Commerce.

Note.- For imports from Cuba, see table 5.

COPPER ORE, CONCENTRATE, MATTE, BLISTER, REFINED AND OLD SCRAP-Continued

Item	United States tariff		Proposed negotiating country
	Act of 1930	1945 rate	
Par. 1658 Copper ore; regulus of, and black or coarse copper; and cement copper; old copper, fit only for remanufacture, copper scale, clippings from new copper, and copper in plates, bars, ingots, or pigs, not manufactured, or specially provided for -----	Free	4¢ per lb. ^{1/} on copper content	CHILE, CUBA

^{1/} The rate of 4¢ per pound on the copper content is an import-excise tax imposed by the Revenue Act of 1932 (now section 3425, Internal Revenue Code). Products of Cuba and the Philippine Islands enter duty (tax) free. Materials for smelting or refining in bond and export are also admitted duty (tax) free (Tariff Act of 1930, sec. 312). Drawback is also paid on imported duty-paid copper when used in manufactured articles which are exported. During the war, considerable copper was imported duty-free for Government use under Executive Order No. 9177. Copper scrap was exempted from the tax during the emergency under Public Law 497, 77th Congress.

Note.- The ad valorem equivalents of the duty (tax) of 4 cents per pound on imports of dutiable copper in 1939 were as follows: On concentrates, 44 percent; on matte, 40 percent; on blister, 47 percent; on refined copper, 37 percent; and on old scrap, 45 percent.

Comment

Most of the copper ores mined in the United States consist of oxides and sulphides. The oxide ores are treated largely by leaching, and separation of the metal from solution is accomplished by chemical or electrolytic means. Sulphide ores--after concentration--are usually roasted to remove part of the sulphur content and then smelted. The smelter product, called a "matte", is subjected to a converting process, which removes the iron and remaining sulphur content. Emerging from the converter as "blister" copper, the product contains some precious metals and impurities which are removed by fire or electrolytic refining. Most copper is sold in the refined form, but matte and blister are also common articles of commerce.

The properties of copper that largely account for its widespread use are (1) electrical conductivity, (2) heat conductivity, (3) ductility, (4) resistance to corrosion, and (5) decorative value. These qualities make copper especially suitable for use in the manufacture of electrical equipment, wire, and automobiles, in building construction, and in a number of alloys of which brass and bronze are the most important. United States consumption of copper by principal uses is shown in the following table.

Table 2.- Copper: United States consumption by principal uses, 1940

Use	: 1,000 short tons	: Percent : of total
Electrical manufactures -----:	247	: 23
Rod and wire manufactures ^{1/} -----:	243	: 23
Automobiles -----:	103	: 10
Buildings -----:	102	: 10
Ammunition -----:	26	: 2.5
Manufacture for export -----:	148	: 14
All other ^{2/} -----:	201	: 17.5
Total -----:	1,070	: 100

^{1/} Includes telephone and telegraph wires and light and power lines.

^{2/} Includes castings, radio receiving sets, and refrigerators.

Source: Data from American Bureau of Metal Statistics.

COPPER ORE, CONCENTRATE, MATTE, BLISTER, REFINED AND OLD SCRAP-Continued

Although the properties of copper make its use in some installations well nigh essential, in others it meets competition from several other metals. Aluminum has been used in electric power lines, in busbars, in the wiring of airplanes, and in other uses formerly served entirely by copper. Zinc, tinsplate, and galvanized iron compete with copper in building construction; and in plumbing, iron pipes are more commonly used than are those of copper. The use of these substitute materials has doubtless had a restraining influence on the price of copper.

The world mine production of primary copper by principal areas in 1939 is shown in the following table.

Table 3.- Primary copper: World production by principal producing areas, 1939

Country	: Thousands of	: Percent
	: short tons	: of total
United States -----	726	30
Chile -----	373	15
Canada -----	304	13
Northern Rhodesia -----	236	10
Soviet Union -----	143	6
Belgian Congo -----	135	5
Japan -----	100	4
All others -----	393	17
Total -----	2,410	100

Source: U. S. Bureau of Mines, Minerals Yearbook.

The production in Japan and the Soviet Union has always been consumed largely within those countries. Copper produced in the Belgian Congo and Northern Rhodesia was, before the war, shipped almost entirely to Europe where it was refined and largely consumed in the European market. During the war practically all of the production of the Belgian Congo came to the United States for smelting and refining. In the future, however, it is quite likely that the Belgian Congo copper will go to European markets as it did before the war. Copper production in Mexico was expanded substantially during the war and that country is now a fairly important world producer.

Before 1927 more than 50 percent of the primary copper produced in the world was extracted from ores mined in the United States but, as shown in the above table, immediately before the recent war the proportion of the world output accounted for by this country had dropped to about 30 percent. During the 5-year period 1940-44 the United States output, despite heavy production subsidies, did not exceed 35 percent of the world total. This decline in the relative importance of the United States in the world production of copper is attributable largely to a steady decrease in the average grade of domestic copper ores and to the development of new foreign producing properties, largely in Africa.

Maximum prewar mine production of primary copper in the United States was attained in 1929, when the domestic price was 18 cents per pound. Over 1 million short tons were produced in that year. During the recent war, domestic production was increased to about 1.1 million short tons annually (1943). Some 70 percent of this copper was produced under a ceiling price of 12 cents per pound, the remainder being subsidized by Government premium payments. The wartime production was largely from mines which were already in operation at the beginning of the war; only one important ore body has recently been placed in production despite extensive exploration for new resources.

COPPER ORE, CONCENTRATE, MATTE, BLISTER, REFINED AND OLD SCRAP-Continued

About 92 percent of domestic production of primary copper originates in five western States: Arizona, Utah, Montana, New Mexico, and Nevada. The remainder is distributed as follows: 3 percent in other western States, 4 percent in Michigan, and 1 percent in Tennessee, Pennsylvania, and Vermont.

The following table shows United States exports of copper. The figures given in the first column of the table show exports of tax-paid imported copper which was subsequently exported with benefit of drawback (refund of the tax). The figures given in the second column of the table relate, except for the war years, very largely to exports of copper imported tax-free for smelting and refining in this country. The figures also include small but unascertainable quantities of exports of copper in the form of matte, blister, refined copper, etc., produced from ores mined in the United States. In addition to such exports, comparatively small quantities of domestically produced copper exported as a constituent of manufactured products (electrical goods, machinery, etc.). These exports are not covered by the statistics given in the table. During the war years most of the copper imported into the United States entered duty-free for Government use and undoubtedly most of the exports during that period consisted of copper which had been so imported (in the crude forms).

Table 4.- Copper ore, concentrates, matte, blister, refined and old scrap: United States exports with benefit of drawback and other, 1935-43

	Quantity (short tons)			
Year	Dutiable copper on		Other <u>1/</u>	Total
	which drawback			
	was paid			
1935 -----	13,580		264,372	277,952
1936 -----	9,686		227,313	236,999
1937 -----	13,145		306,920	320,065
1938 -----	15,035		378,323	393,358
1939 -----	8,741		381,741	390,482
1940 -----	9,322		354,552	363,874
1941 -----	73,815		33,058	106,873
1942 -----	46,390		89,656	136,046
1943 -----	12,475		164,624	177,099

^{1/} Until 1941 the exports consisted very largely of imported copper entered tax free for smelting, refining, and export; only comparatively small quantities of copper produced in the United States were exported before the war. During the war practically all copper imported into the United States was tax free for Government use and the great bulk of the exports of primary copper during that period consisted of copper so imported.

Source: Official statistics of the U. S. Department of Commerce.

COPPER ORE, CONCENTRATE, MATTE, BLISTER, REFINED AND OLD SCRAP-Continued

The statistics of imports given in the table at the beginning of this digest (table 1) for prewar years cover copper imported for consumption in this country upon which the import-excite tax was paid, imports for consumption tax free from Cuba and the Philippine Islands, and imports tax free for smelting, refining, and export. During the war years practically all of the copper brought into the United States was imported tax free for Government use. The first of the following two tables (table 5) shows the imports for consumption by principal sources 1935-43; the second table (table 6) shows the imports tax free for smelting, refining, and export by principal sources for the same period.

Table 5 shows that before the war imports for consumption were comparatively small, averaging 21,000 tons a year in the period 1935-39, of which nearly half (9,000 tons a year) were tax free from Cuba (imports tax free from the Philippines not shown separately in the table were negligible). Moreover, practically all the copper imported for consumption upon which the tax was paid was subsequently exported with benefit of drawbacks (see table 4 which shows that exports with benefit of drawback averaged 12,000 tons a year in the period 1935-39). It is apparent from these data that before the war only negligible quantities of imported copper upon which the tax was paid were actually consumed in this country. During the war imports for consumption greatly increased but, as already indicated, they were almost entirely under Government purchase and entered free for Government use.

Table 6 shows that the great bulk of the copper shipped to the United States in prewar years was imported tax free, smelted and/or refined in this country, and then exported. Average annual imports of this class in the period 1935-39 were only slightly less than 200,000 tons. This compares with average annual imports for consumption, as shown in table 5, of about 21,000 tons, of which nearly half was imported tax free from Cuba.

Table 5.- Copper ore, concentrates; matte, blister, refined and old scrap: United States imports other than copper free for smelting, refining, and export, 1935-45

Year	All countries	1/ CUBA	2/ CHILE	Mexico	Canada
Quantity (short tons--copper content)					
1935	17,806	4,359	6,801	5,372	424
1936	23,804	10,301	4,739	7,875	26
1937	29,507	14,214	8,521	5,583	89
1938	20,233	9,674	4,328	3,520	324
1939	15,717	5,859	2,847	3,740	1,283
Average, 1935-39	21,413	8,881	5,447	5,218	429
1940	85,904	11,359	49,688	7,380	4,538
1941	3/ 568,080	8,399	428,083	34,136	38,245
1942	4/ 659,411	9,126	520,150	22,567	34,330
1943	5/ 624,916	7,916	485,250	37,680	23,706
1944 6/	7/ 707,603	7,138	545,346	40,275	59,186
1945 6/	8/ 849,070	9,423	450,033	64,314	88,068
Average, 1940-45	582,497	8,394	413,092	34,392	41,346
Value (1,000 dollars)					
1935	2,374	523	976	693	67
1936	3,312	1,238	768	1,188	4
1937	6,467	2,769	2,250	1,145	18
1938	3,316	1,470	749	577	61
1939	2,697	856	599	588	244
Average, 1935-39	3,633	1,371	1,068	838	79
1940	17,237	1,675	10,571	1,458	909
1941	3/ 111,755	1,256	83,747	6,430	8,054
1942	4/ 142,319	1,534	113,199	4,724	7,738
1943	5/ 137,699	1,525	107,765	7,841	5,458
1944 6/	7/ 156,103	1,503	121,082	8,499	13,917
1945 6/	8/ 185,830	1,493	98,021	12,862	21,458
Average, 1940-45	125,157	1,498	89,064	6,969	9,581

1/ Includes negligible imports duty-free as product of Philippine Islands, and small imports of copper scrap duty-free under Public Law 497, 77th Congress.

2/ Duty-free.

3/ Free for Government use, 347,359 short tons, valued at 68,371 thousand dollars.

4/ Free for Government use, 635,001 short tons, valued at 137,533 thousand dollars.

5/ Free for Government use, 613,561 short tons, valued at 135,515 thousand dollars.

6/ Preliminary.

7/ Free for Government use, 693,639 short tons, valued at 154,241 thousand dollars.

8/ Free for Government use, 834,108 short tons, valued at 183,333 thousand dollars.

Source: Official statistics of the U. S. Department of Commerce.

Note.- Includes dutiable copper; duty-free imports from Cuba and the Philippine Islands; imports free for Government use; and old scrap imported duty-free under Public Law 497, 77th Congress.

Table 6.— Copper ore, concentrates, matte, blister, refined and old scrap: United States imports free for smelting, refining, and export, 1935-43

Year	All countries	CHILE	Mexico	Peru	Canada
Quantity (short tons—copper content)					
1935	222,722	75,963	42,949	34,282	40,826
1936	159,984	57,216	24,130	33,252	21,369
1937	197,972	84,458	35,559	38,352	10,228
1938	185,485	60,937	32,459	37,061	28,612
1939	214,952	67,855	41,095	35,757	23,943
Average, 1935-39	196,223	69,286	35,238	35,741	24,996
1940	279,093	120,391	28,155	33,565	24,346
1941	^{1/} 152,628	26,191	26,905	3,250	20,242
1942	^{2/} 122,950	16,057	33,357	1,010	5,813
1943	^{3/} 111,363	103	16,225	153	9,809
Average, 1940-43	166,508	40,685	26,161	9,494	15,052
Value (1,000 dollars)					
1935	30,746	10,685	5,433	4,856	6,015
1936	26,458	9,211	3,785	5,736	3,676
1937	45,936	19,479	7,938	9,730	2,479
1938	34,439	10,998	5,604	6,952	5,709
1939	41,389	13,172	7,382	7,284	4,755
Average, 1935-39	35,794	12,709	6,028	6,914	4,527
1940	56,115	24,460	5,671	7,353	4,745
1941	^{1/} 29,866	5,390	5,431	649	3,969
1942	^{2/} 22,171	3,020	5,547	223	1,181
1943	^{3/} 18,034	21	3,063	35	2,017
Average, 1940-43	31,546	8,223	4,928	2,065	2,978

^{1/} Includes 58,820 short tons, valued at 11,206 thousand dollars, imported from Belgian Congo.

^{2/} Includes 60,245 short tons, valued at 10,859 thousand dollars, imported from Belgian Congo.

^{3/} Includes 83,192 short tons, valued at 12,560 thousand dollars, imported from Belgian Congo.

Source: Official statistics of the U. S. Department of Commerce.

The great bulk of the imports for smelting, refining, and export have been in the form of blister for refining (see table 7 showing United States imports by kind, by principal sources). Imports for consumption have consisted principally of blister from Mexico, Canada, and Chile, concentrates from Cuba (free), and refined copper largely from Chile. Most of the imports of scrap have been for smelting, refining, and export and have come mainly from Canada.

Table 7.—Copper: United States imports for consumption, by kinds, with principal sources, 1939

Item	Total	Principal sources
	<u>1,000</u>	
	<u>dollars</u>	
Imports free for smelting, re- fining, and export:		
Ore -----	467	Malta, Gozo, and Cyprus, \$190; CHILE, \$114; Yugoslavia, \$112
Concentrates -----	1,779	Canada, \$1,198; CHILE, \$248; Mexico, \$172
Matte -----	102	United Kingdom, \$44; France, \$17; Czechoslovakia, \$13
Blister -----	37,961	CHILE, \$12,536; Peru, \$7,243; Mexico, \$7,184
Refined -----	263	CHILE, \$263
Old scrap -----	822	Canada, \$425; Belgium, \$115; United Kingdom, \$60
Imports for consumption:		
Product of the Philippine Islands (free):		
Ore and concentrates -----	273	
Other -----	18	
Product of Cuba (free):		
Concentrates -----	850	
Dutiable:		
Concentrates -----	14	Canada, \$14
Matte -----	<u>1/</u>	
Blister -----	962	Mexico, \$588; Canada, \$157; CHILE, \$120
Refined -----	552	CHILE, \$479; Canada, \$73
Old scrap -----	23	Belgium, \$12; United Kingdom, \$11

1/ Less than \$500. Imported from Bolivia (\$27).

Source: Official statistics of the U. S. Department of Commerce.

The following table (table 8) shows the prices of copper in New York and in London since 1921. Until 1932 when the United States imposed the import-excite tax of 4 cents per pound on copper, the price of electrolytic copper in London was regularly slightly higher than the New York price, in most years averaging 4/10-cent higher. This price differential approximately equalled the difference in transportation cost from the principal producing countries to the New York and London markets. Throughout the period covered by the table there was no duty on imports of copper into the United Kingdom. Since the imposition of the United States tax, the New York price has been higher than the London price in every year except 1936 when the New York and London prices were the same. At no time during this period, however, has the price differential approached the amount of tax. The greatest difference in the annual average price was in 1939 when it amounted to 1 cent 1/ per pound.

1/ On two or three occasions and for short periods the differential was slightly in excess of 2 cents per pound.

Before the war, the United States exports of domestically produced copper and imports of copper for consumption in this country were both small and roughly in balance, which probably accounts for the fact that the import-excise tax was not more fully reflected in the New York price of electrolytic copper. The difference between the New York and the London price during the war years has little significance because of price ceilings, tax free Government imports, and other unusual factors. Should the United States become a net importer of copper on a substantial scale, the New York price may be expected to exceed the London price by approximately the amount of the import-excise tax (less differences in transportation costs to the two markets), provided, of course, that copper imported into the United Kingdom remains duty-free.

Early in November 1946 governmental price controls on copper were removed. The domestic price was advanced to $17\frac{1}{2}$ cents per pound immediately to conform with foreign prices. Later the price was advanced to $19\frac{1}{2}$ cents and the foreign price remained at $17\frac{1}{2}$ cents for a week or so but has now been raised to parity with the domestic price ($19\frac{1}{2}$ cents per pound). Governmental purchases of foreign copper have also been discontinued, private industry desiring to procure foreign copper must pay $19\frac{1}{2}$ cents per pound plus the excise tax of 4 cents per pound.

Table 8.- Electrolytic copper: Comparison of New York and London prices, 1922-45

(In cents per pound)						
Year	Average quotation for		Excess			
	electrolytic refined					
	New York	London 1/	New York	London		
1922 -----	13.4	13.6		0.2		
1923 -----	14.4	14.8		.4		
1924 -----	13.0	13.4		.4		
1925 -----	14.0	14.4		.4		
1926 -----	13.8	14.2		.4		
1927 -----	12.9	13.5		.6		
1928 -----	14.6	15.0		.4		
1929 -----	18.1	18.5		.4		
1930 -----	13.0	13.4		.4		
1931 -----	8.1	8.5		.4		
1932 -----	5.6	5.6	-	-		
1933 -----	7.0	6.9	0.1			
1934 -----	8.4	7.5	.9			
1935 -----	8.6	7.8	.8			
1936 -----	9.5	9.5	-	-		
1937 -----	13.2	13.1	.1			
1938 -----	10.0	9.9	.1			
1939 -----	11.0	10.0	1.0			
1940 -----	11.3	2/ 11.17	.13			
1941 -----	11.8	2/ 11.17	.63			
1942 -----	2/ 11.775	2/ 11.17	.605			
1943 -----	2/ 11.775	2/ 11.17	.605			
1944 -----	2/ 11.775	2/ 11.17	.605			
1945 -----	2/ 11.775	2/ 11.17	.605			

^{1/} Converted at current monthly exchange rate, and averaged for 12 months.

^{2/} Official ceiling prices.

Source: Engineering and Mining Journal, New York, N. Y.

Over a long period of time the share of world copper output supplied by the United States has declined. Moreover, almost all the major new discoveries of copper in the past 40 years have been in areas outside this country. Estimates of world copper reserves as of about 1930 indicate that continental United States had little more than 25 percent of the world reserves, but was producing and consuming more than 40 percent of the total world output. Recent studies indicate that the United States now has only about 20 percent of the world's reserves and that part of its reserves consists of such low quality as to be at present of limited commercial significance. Since our consumption of copper in the foreseeable future is likely to equal or exceed 40 percent of the world total, it seems clear that our known reserves of copper will be exhausted more rapidly than those of the rest of the world as a whole unless domestic production is supplemented by heavy imports or new discoveries are made in this country.

IMPORT-EXCISE TAXES ON IMPORTED
PRODUCTS CONTAINING COPPER a/

Stat. import classes (1939): 5711.0; 6404.1; 6405.1, 6408.1; 6416.1; 6417.1; 6418.1; 6418.3; 643.00-643.08; 643.20; 643.30; 6453.0; 6458.0-6458.6; 6459.0; 6459.6-6459.7; 6760.2; 676.10; 676.15; 8263.0; 838.369.

United States production, exports, and imports, 1937-39 and 1943

Year	Production	Domestic exports <u>2/</u>	Imports for consumption <u>1/</u> from--				
			All countries	CHILE	Mexico	Peru	Canada
Quantity (Short tons - copper content)							
1937		13,086	20,049	8,521	5,583	670	89
1938	Not	15,028	13,202	4,328	3,520	970	324
1939	avail-	8,739	12,054	2,847	3,740	224	1,283
1943	able	13,300	8,566	-	<u>3/</u>	1	327
Value (1,000 dollars) <u>4/</u>							
1937			3,826	2,250	1,145	177	18
1938	Not	Not	1,871	749	577	180	60
1939	avail-	avail-	1,719	599	588	47	244
1943	able	able	3,096	-	<u>5/</u>	<u>5/</u>	74

1/ Country statistics include only copper ore, concentrate, matte, blister, refined and scrap. Other imports originate chiefly in Japan, Germany, and the United Kingdom.

2/ Exports of copper materials on which a drawback of the import-excise tax has been paid.

3/ Less than a half ton.

4/ Value of articles n.s.p.f. is not available and is therefore excluded from these totals.

5/ Less than \$500.

Source: Official statistics of the U. S. Department of Commerce.

Item	Import-Excise Tax <u>1/</u>		Proposed negotiating country
	Rate in 1930	1945 rate	
Sec. 3425, Internal Revenue Code:			
Articles provided for in pars. 316, 380, 381, 387, 1620, 1634, 1657, 1658; and 1659 of the Tariff Act of 1930.	None	4¢ lb. on copper content	CHILE
All other articles dutiable under the Tariff Act of 1930:			
In chief value of copper	None	3¢ lb.	do.
Containing 4 percent or more of copper by weight, but not in chief value of copper	None	3% ad val. or 3/4¢ lb., whichever is the lower.	do.

1/ Taxes originally imposed by section 601(c)(7), Revenue Act of 1932, effective June 21, 1932 (now Section 3425, Internal Revenue Code).

a/ This report deals only with the import-excise tax imposed under the Internal Revenue Code on articles containing copper. Commodities on which the tax is collected are pyrites; all raw forms of copper; copper, brass, and bronze shapes and scrap; wire, strand; German silver; phosphor copper; copper sulphate and acetate; composition metal; bell metal scrap; nickel silver; and dutiable articles containing 4 percent or more of copper, whether or not copper chief value.

IMPORT-EXCISE TAXES ON IMPORTED PRODUCTS CONTAINING COPPER - continued

Comment.

The taxes imposed by section 3425 of the Internal Revenue Code on articles containing copper are all subject to consideration for possible concession in the announced trade agreement negotiations, whether or not the articles to which the taxes apply are specified in the Public List under "Items provided for in the Tariff Act of 1930". The Internal Revenue Code provides a tax of 4 cents per pound on the copper content of the articles provided for in paragraphs 316, 380, 381, 387, 1620, 1634, 1657, 1658, or 1659 of the Tariff Act of 1930; a tax of 3 cents per pound on the entire weight of other articles in chief value of copper and dutiable under the Tariff Act of 1930; and a tax of 3 percent ad valorem or 3/4 cent per pound, whichever is lower, on the entire weight of articles dutiable under the Tariff Act of 1930 which contain 4 percent or more of copper by weight but are not in chief value of copper. The most important group to which these taxes apply are the ores, concentrates, matte, blister, refined and scrap copper. These items, as well as many of the other items to which the copper tax applies are the subject of separate digests. The purpose of this digest is to furnish an over-all picture of the relative importance of the import trade in the principal groups of products subject to the tax.

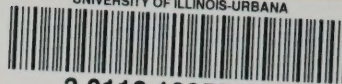
The quantity of copper (copper content) of all the products on which these taxes apply is shown below for the years 1937-39 and 1943.

Copper content of imported products subject to copper excise tax
under the Internal Revenue Code

Year	Total	Articles				
		containing				
		Copper ore,	All other	Articles in:	4% or more	
		concentrates,	articles	chief value:	copper,	
		matte, blis-	on which	of copper	copper not	
		ter, refined	4¢ per lb.	(3¢ per	chief value,	
		and scrap	of copper	pound on	3% or 3/4¢	
		(4¢ per lb.)	content is	entire	lb. (entire	
			collected	weight)	weight)	
Pounds (copper content)						
1937	40,097,805	29,756,915	592,037	4,629,137	5,119,716	
1938	26,403,200	19,284,206	648,771	3,546,303	2,923,920	
1939	24,108,446	16,952,622	453,182	3,308,348	3,394,294	
1943	17,131,944	1,158,302	14,505,834	1,064,557	403,251	

Source: Official statistics of the U. S. Department of Commerce, except as noted.

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